

MINISTRY OF INTERIOR.

DEPARTMENT OF PUBLIC HEALTH.

Paper No. 2-1911.



# ANNUAL REPORT

FOR

1910.



CAIRO :

NATIONAL PRINTING DEPARTMENT,

1912.

AC II



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*With the compliments  
of the Director General  
Department of Public Health.*



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MINISTRY OF INTERIOR.

DEPARTMENT OF PUBLIC HEALTH.

ANNUAL REPORT FOR 1910.

In the report issued for 1909 it was pointed out in the introductory note that for reasons cited a certain proportion of the substance referred to periods antecedent to 1909.

In perusing the following report it will be found that these conditions no longer exist; the substance is condensed as much as possible to the statistical standard and also, with few exceptions, is limited to the events of 1910.

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## PRELIMINARY.

### ORDINARY BUDGET.

The ordinary Budget (recurrent expenditure) was fixed at ... ... ... ...	L.E. 301,514
That for 1909 was ... ... ... ...	„ 291,405
Showing an increase of ... ... ... ...	L.E. 10,109
Which was distributed as follows :—	
i. Increase of personnel (pensionable) ... ... ... ...	L.E. 2,744
ii. Increase of personnel (non-pensionable) ... ... ... „	1,206
iii. Increase of Hospitals and general supplies and expenses „	4,928
iv. Automatic increase in Cairo Scavenging and Watering Service ... ... ... „	1,140
v. Interest of the Cassel Fund incorporated in Budget ... „	2,568
	L.E. 12,586
Reduction in 1910 due to transfer of Abattoirs to Municipalities and Local Commissions ... ... „	2,477
	L.E. 10,109

The following table indicates in a general manner the credits allotted to the individual or correlated Services of the Department, and affords a comparison with the corresponding credits allotted in 1909 :—

	1910.	1909.	
		L.E.	L.E.
<b>A. Personnel :—</b>			
1. Direction General ... ... ... ...	20,873	19,809	
2. Central Stores and attached Services... ... ... ...	5,145	5,133	
3. Scientific Laboratories and Institutes... ... ... ...	4,601	4,520	
4. Ophthalmic Hospitals* ... ... ... ...	4,967	1,424	
5. Inspectorate of Pharmacies ... ... ... ...	1,428	1,422	
6. Provincial Hospitals and Inspectorates ... ... ...	50,997	52,196	
7. Provincial Barbers... ... ... ...	1,500	1,500	
8. Cairo Inspectorate ... ... ... ...	10,170	10,307	
9. Cairo Hospitals (including Lunatic Asylum) ... ...	19,339	18,287	
10. Alexandria Hospitals ... ... ... ...	4,335	2,323	
11. Veterinary Service... ... ... ...	13,232	12,311	
<b>B. Equipment ... ... ... ...</b>	<b>23,357</b>	<b>22,627</b>	
<b>C. General supplies and diets ... ... ... ...</b>	<b>40,813</b>	<b>38,419</b>	
<b>D. Travelling charges and allowances ... ... ... ...</b>	<b>9,069</b>	<b>8,440</b>	
<b>E. Various indemnities and allowances ... ... ...</b>	<b>9,319</b>	<b>9,049</b>	
<b>F. Free water fountains ... ... ... ...</b>	<b>3,278</b>	<b>3,278</b>	
<b>G. Prophylactic measures ... ... ... ...</b>	<b>5,198</b>	<b>5,198</b>	
<b>H. Repairs and maintenance of buildings ... ...</b>	<b>6,148</b>	<b>7,050</b>	
<b>I. Sanitation of Mosques ... ... ... ...</b>	<b>2,500</b>	<b>2,500</b>	
<b>J. General expenses : forage, rent, light, water, printing, post, telegrams, telephones, etc.... ... ... ...</b>	<b>16,733</b>	<b>16,240</b>	
<b>K. Cairo Scavenging and Watering Service ... ...</b>	<b>48,512</b>	<b>47,372</b>	
<b>TOTAL... ... ...</b>	<b>301,514</b>	<b>291,405</b>	

On this Budget, the total expenditure (1910) was ... ... ... ... ... L.E. 291,623

Showing an economy, which reverts to the State Treasury, of ... ... ... ... L.E. 9,891

\* In addition, L.E. 2,568, interest of the Cassel Fund, incorporated in the Budget for 1910.

## SPECIAL CREDITS.

ITEM.	Balance from 1909.	Credit 1910.	Total.	Expended 1910.
	L.E.	L.E.	L.E.	L.E.
Khanka Lunatic Asylum ... ... ... ... ...	12,001	32,825	44,826	16,392
Abbassia Lunatic Asylum ... ... ... ... ...	626	...	626	512
Pavilion for Criminal Lunatics, Abbassia... ...	5,628	...	5,628	2,754
Second storey, Central Office ... ... ... ...	2,850	...	2,850	...
Rebuilding part of Central Stores ... ... ...	3,317	...	3,317	1,820
Filling up Birkas ... ... ... ... ...	1,627	...	1,627	792
Transfer of Cemeteries ... ... ... ... ...	1,872	1,395	3,267	1,303
Alterations, Alexandria Hospital ... ... ...	2,453	...	2,453	924
Quarters, Mersa Matruh Hospital ... ... ...	4	...	4	4
Shellal Cattle Shed ... ... ... ... ...	1,395	...	1,395	30
Building Assiut Ophthalmic Hospital ... ...	5,003	...	5,003	2,764
Building and repairing Abattoirs ... ... ...	932	...	932	109
Building Tanta Ophthalmic Hospital... ...	272	...	272	...
Equipment for Assiut Ophthalmic Hospital ...	1,568	...	1,568	880
Infectious Diseases Hospital, Benha ... ...	424	...	424	42
,,      ,,      ,,      Alexandria ...	9,120	...	9,120	...
Human Plague ... ... ... ... ...	}	52,000	52,000	20,395
Cattle Plague ... ... ... ... ...				
Quarantine prophylactic measures ... ... ...				
Building and equipping Alexandria Hospital ...	...	7,106	7,106	1,107
Building Ophthalmic Hospital, Mansura ...	...	6,287	6,287	1,684
Surgical instruments, Assiut Ophth. Hospital ...	...	264	264	...
Prophylactic measures against cholera ... ...	...	4,100	4,100	1,458
TOTAL ... ...	49,092	103,977	153,069	70,441

## INTERNAL ADMINISTRATION AND ORGANIZATION.

As regards internal organization, no practical change was effected in 1910, and the pre-existing conditions remained.

Proposals, however, were under consideration during the latter part of the year, and it is hoped that some useful improvements will, as the outcome of this consideration, be effected during the coming year.

The Department has to register the death, and thereby the loss, of another Divisional Inspector, in addition to the four names mentioned in the report for 1909. Dr. Charles Forrester joined the Department on 3rd November, 1903, and after a long illness contracted in the service was invalidated on 28th December, 1909, and died in November, 1910.

The following table presents a list of the Staff and Personnel of the Department:—

STAFF AND PERSONNEL OF THE DEPARTMENT OF PUBLIC HEALTH FOR 1910.

No.	CATEGORY.	No.	CATEGORY.
“Personnel classé.”			
1	Director-General.	304	<i>Brought forward.</i>
1	Deputy Director-General.	1	Veterinary Inspector, 1st class.
1	Secretary-General.	3	Veterinary Inspectors, 2nd class.
4	Inspectors, 1st class.	5	Veterinary Inspectors, 3rd class.
1	Inspector (special class).	2	Veterinary Inspectors, 4th class.
10	Divisional Inspectors.	10	Veterinary Inspectors, 5th class.
8	Inspectors, 2nd class.	19	Veterinary Inspectors, 6th class.
16	Inspectors, 3rd class.	1	Chief Inspector, Scavenging and Watering Service.
107	Inspectors, 4th class.	2	Inspectors, Scavenging and Watering Service.
1	Sanitary Engineer, 1st class.	1	Assistant Inspector.
1	Sanitary Engineer, 2nd class.	1	Inspector of Vidanges.
1	Sanitary Engineer, 3rd class.	CLERICAL STAFF.	
1	Bacteriologist, 1st class.	1	Director of Service.
3	Bacteriologists, 2nd class.	3	Sub-Directors of Service.
1	Chemist.	2	Chefs de Bureau.
1	Alienist, 1st class.	5	Sous-Chefs de Bureau.
1	Alienist, 2nd class.	7	Employees, 1st class.
3	Medical Officers, 1st class.	18	Employees, 2nd class.
3	Medical Officers, 2nd class.	32	Employees, 3rd class.
8	Medical Officers, 3rd class.	115	Employees, 4th class.
60	Medical Officers, 4th class.	2	Store-keepers, 1st class.
49	Sages-Femmes.	2	Store-keepers, 2nd class.
1	Director of Stores.	1	Store-keeper, 3rd class.
1	Pharmacist, 1st class.	4	Store-keepers, 4th class.
1	Pharmacist, 2nd class.	TOTAL.	
5	Pharmacists, 3rd class.	541	TOTAL.
14	Pharmacists, 4th class.		
304	<i>Carried forward.</i>		

“Hors Cadre” and Special Credits.

1909.	1910.	CATEGORY.	1909.	1910.	CATEGORY.
21	28	Medical Officers.	744	793	<i>Brought forward.</i>
4	4	Inspectors.	2	4	Laboratory Assistants, 2nd class.
2	2	Matrons.	1	1	” ” 3rd class.
* 29	22	Nursing Sisters.	2	2	” ” 4th class.
40	41	Chief Attendants.	10	10	Disinfectors, 1st class.
† 384	425	Male Attendants.	37	22	” 2nd class.
146	155	Female Attendants.	118	120	Clerks.
101	109	Sanitary Barbers.	42	50	Cooks.
3	2	Electricians.	2	2	Printers.
4	2	” (Assistant).	880	853	Other employees and artisans of various trades.
8	1	Mechanics.			
2	2	Laboratory Assistants, 1st class.			
744	793	<i>Carried forward.</i>	1,838	1,857	TOTALS.

\* In 1909 temporary sisters were appointed at Kasr el Aini (21), Suez (4), and Abbassia Hospital for Infectious Diseases (1).

† The 1909 figure does not include the number of male attendants at Suez (9 in 1910), Port Said (17 in 1910), Alexandria (34 in 1910).



## PART I.—MEDICAL ADMINISTRATION.

### A.—GENERAL PROVISIONS FOR MEDICAL AID.

#### (i) GENERAL HOSPITALS.

The total number of *In-patients* treated during 1910 in the various Government Hospitals (excluding the ophthalmic hospitals) amounted to 37,975 as against 36,787 in 1909 ; the number of days of treatment amounted to 1,030,206 as against 989,089 in 1909.

In the *Out-patients* section, the total number of new patients seen was 152,733, as compared with 144,509 in the previous year, while the total number of attendances (new and old patients) was 312,152, as against 353,409 in 1909.

In the Government Dispensaries in the districts 38,449 persons have been attended gratuitously by the Medical Officers.

A credit has been granted for the building of a new hospital at Kena and it is hoped that it will be ready for occupation early in 1912.

The difficulty of obtaining suitable hospital attendants remains as acute as before ; it is hoped that a small extra credit will be obtained for 1912 to effect some improvement in this respect in certain of the provincial hospitals ; until provision is made for attracting to the service and training a superior class of attendant, the standard of nursing must still leave something to be desired.

TABLE I.

PATIENTS.—NUMBER OF BEDS.—DAYS' TREATMENT.

LOCALITY.	YEAR.					
	1909.			1910.		
	Patients Treated.	Beds.	Days' Treatment.	Patients Treated.	Beds.	Days' Treatment.
Governorates	Cairo { Kasr el Aini... ...	8,919	670	182,045	9,666	614
	Lunatic Asylum...	1,070	908	390,550	1,922	1,007
	Infectious Hospital	1,081	170	24,384	841	165
	Alexandria ... ... ...	5,676	388	78,855	6,032	286
	Damietta ... ... ...	732	46	12,230	799	44
	Port Said ... ... ...	1,192	174	30,155	2,168	139
	Suez ... ... ... ...	1,432	91	9,836	1,075	100
Lower Egypt	Kaliub ... ... ... ...	464	35	9,096	818	34
	Benha ... ... ... ...	665	51	14,760	692	50
	Zagazig ... ... ... ...	1,184	79	22,932	1,135	79
	Tanta ... ... ... ...	1,800	129	33,179	1,648	103
	Mansura ... ... ... ...	1,373	95	22,413	1,394	97
	Shibin el Kom ... ...	697	61	16,515	873	60
	Damanhur ... ... ...	1,229	64	35,306	1,132	61
	Marsa Matruh ... ...	132	12	1,679	126	14
Upper Egypt	Fayum ... ... ... ...	671	41	10,390	844	41
	Beni Suef ... ... ...	669	47	9,438	738	40
	Minia ... ... ... ...	971	52	15,196	995	51
	Assiut ... ... ... ...	2,165	136	35,426	1,973	136
	Sohag ... ... ... ...	970	52	16,042	857	50
	Kena ... ... ... ...	477	31	7,542	555	31
	Esna ... ... ... ...	184	26	3,157	264	25
	Aswan ... ... ... ...	538	41	7,963	440	39
	TOTAL ... ...	35,291	3,399	989,089	36,987	3,266
						1,030,206

TABLE II.

---

HOSPITALS.							Voluntary Cases.	Police Cases.	Total Number of Cases.	Total Number of Days' Treatment.	Number of Beds.
Kasr el Aini	...	...	...	...	...	...	6,071	3,595	9,666*	187,528	614
Infectious	...	...	...	...	...	...	600	241	841	18,043	165
Alexandria	...	...	...	...	...	...	3,838	2,194	6,032	80,229	286
Damietta	...	...	...	...	...	...	487	312	799	13,315	44
Port Said	...	...	...	...	...	...	1,347	821	2,168	32,149	139
Suez	...	...	...	...	...	...	917	158	1,075	19,561	100
Tanta	...	...	...	...	...	...	785	863	1,648	29,137	103
Mansura	...	...	...	...	...	...	614	780	1,394	24,463	97
Damanhur	...	...	...	...	...	...	472	660	1,132	17,018	61
Zagazig	...	...	...	...	...	...	128	1,007	1,135	18,799	79
Shibin el Kom	...	...	...	...	...	...	352	521	873	17,509	60
Kaliub	...	...	...	...	...	...	796	22	818	10,731	34
Benha	...	...	...	...	...	...	114	578	692	11,397	50
Fayum	...	...	...	...	...	...	39	535	844	12,181	41
Beni Suef	...	...	...	...	...	...	204	534	738	10,994	40
Minia	...	...	...	...	...	...	292	703	995	12,672	51
Assiut	...	...	...	...	...	...	678	1,295	1,973	28,678	136
Sohag	...	...	...	...	...	...	115	742	857	15,088	50
Kena	...	...	...	...	...	...	20	535	555	9,004	31
Esna	...	...	...	...	...	...	95	169	264	3,366	25
Aswan	...	...	...	...	...	...	110	330	440	6,206	39
Marsa Matruh	...	...	...	...	...	...	119	7	* 126	1,728	14
TOTAL...							18,463	16,602	35,065	579,796	2,259
Lunatic Asylum	...	...	...	...	...	...	—	1,922	1,922	450,410	1,007
GRAND TOTAL...							18,463	18,524	36,987	1,030,206	3,266

\* Includes cases in hospital at the end of 1909.

TABLE III.

---

HOSPITALS.	ADMITTED.			DISCHARGED.			REMAINING.	FEES RECOVERED.	
	Existing.	Admitted.	Total.	Cured.	Died.	Improved.		L.E.	M.
Kasr el Aini ... ...	435	9,231	9,666	5,407	781	2,975	503	564	261
Infectious... ... ...	20	841	861	704	94	32	31	79	500
Alexandria ... ... ...	207	6,032	6,239	3,637	351	2,018	233	360	716
Damietta ... ... ...	36	799	835	744	30	12	49	90	390
Port Said ... ... ...	97	2,168	2,265	1,385	85	711	84	1,244	390
Suez ... ... ... ...	59	1,075	1,134	947	79	71	37	945	390
Tanta ... ... ... ...	64	1,648	1,712	1,290	124	221	77	241	823
Mansura ... ... ... ...	59	1,394	1,453	1,242	54	84	73	359	030
Damanhur ... ... ...	32	1,132	1,164	585	84	450	45	264	225
Zagazig ... ... ... ...	42	1,135	1,177	1,069	52	...	56	85	105
Shibin el Kom ... ...	42	873	915	757	49	73	36	150	465
Kaliub ... ... ... ...	22	818	840	290	24	497	29	44	200
Benha ... ... ... ...	43	692	735	537	49	117	32	96	570
Fayum ... ... ... ...	20	844	864	729	28	66	41	85	080
Beni Suef... ... ... ...	29	738	767	618	46	69	34	169	975
Minia ... ... ... ...	36	995	1,031	817	33	148	33	125	130
Assiut ... ... ... ...	78	1,973	2,051	1,738	104	123	86	266	370
Sohag ... ... ... ...	40	857	897	805	46	6	40	141	845
Kena ... ... ... ...	20	555	575	472	25	61	17	32	200
Esna ... ... ... ...	11	264	275	222	10	33	10	7	260
Aswan ... ... ... ...	28	440	468	397	9	39	23	125	656
Marsa Matruh ... ...	3	126	129	90	4	32	3	8	440
Total ... ... ... ...	1,423	34,630	36,053	24,482	2,161	7,838	1,572	5,488	021
Lunatic Asylum ... ...	1,150	772	1,922	149	126	343	1,304	4,751	940
GRAND TOTAL ... ...	2,573	35,402	37,975	24,631	2,287	8,181	2,876	10,239	961

TABLE IV.

## OUT-PATIENTS' SECTION 1910 (HOSPITALS).

HOSPITALS.	Number of Patients.	Number of Attendances	Amount Collected.		HOSPITALS.	Number of Patients.	Number of Attendances	Amount Collected.	
			L.E.	M.				L.E.	M.
					<i>Brought forward.</i>	114,086	215,106	1,229	803
Kasr el Aini ...	47,305	83,804	771	212	Kaliub ... ...	8,230	10,360	5	831
Infectious ... ...	..	..	..	..	Benha ... ...	1,873	8,647	4	680
Alexandria ... ...	12,724	20,479	181	370	Fayum ... ...	5,819	10,105	31	543
Damietta ... ...	5,378	10,251	67	397	Beni Suef ... ...	3,800	16,150	36	260
Port Said ... ...	20,802	26,008	136	384	Minia ... ...	5,565	18,323	8	050
Suez ... ... ...	6,841	11,282	31	007	Assiut ... ...	6,355	10,316	14	202
Tanta ... ... ...	5,128	16,771	24	158	Sohag ... ...	3,095	12,854	1	968
Mansura ... ...	8,233	13,987	8	050	Kena ... ...	1,081	2,612	21	575
Damanhur ... ...	1,352	2,400	..	...	Esna ... ...	523	3,406	57	045
Zagazig ... ...	1,631	18,994	4	085	Aswan ... ...	1,738	3,705	16	502
Shibin el Kom ...	4,692	11,130	6	140	Marsa Matruh ...	568	568	9	825
<i>Carried forward</i>	114,086	215,106	1,229	803	<b>TOTAL ...</b>	152,733	312,152	1,437	284

TABLE V.

## INFECTIOUS DISEASES NOTIFIED BY THE MEDICAL OFFICERS OF THE AMBULANCE SERVICE.

		1909.				1910.			
		Existing.	Admitted.	Total.	Died.	Existing.	Admitted.	Total.	Died.
Smallpox ... ... ...	143	3,740	3,883	751		101	3,066	3,167	561
of whom in Infectious Hospital, Cairo ...	40	264	304	62		2	34	36	6
Measles ... ... ...	16	4,226	4,242	2,235		24	7,435	7,459	3,553
of whom in Infectious Hospital, Cairo ...	..	32	32	3		..	15	15	1
Diphtheria ... ... ...	6	937	943	472		11	656	667	327
of whom in Infectious Hospital, Cairo ...	..	74	74	41		..	40	40	24
Plague ... ... ...	17	513	530	207		16	1,238	1,254	615
 Typhoid Fever ... ... ...	9	374	383	94		7	325	332	89
of whom in Infectious Hospital, Cairo ...	4	62	66	8		2	54	56	8
Typhus (Exanth.) ... ... ...	63	3,759	3,822	1,058		49	2,833	2,882	733
of whom in Infectious Hospital, Cairo ...	1	54	55	12		2	66	66	25
Relapsing Fever ... ... ...	41	210	251	15		2	926	928	43
of whom in Infectious Hospital, Cairo ...	..	104	104	5		..	133	133	3

## (ii) INFECTIOUS HOSPITALS.

The provision of Infectious Hospitals remained unchanged in 1910, but some progress was made in elaborating the scheme for the extension of the Cairo Infectious Hospital at Abbassia.

As regards Alexandria, it is understood that the Municipality has appointed a committee to study the question of the necessity of such accommodation, as was referred to in last year's report.

TABLE VI.

## LIST OF FEVER AMBULANCES ISSUED DURING 1910.

No. of Beds.	LOCALITIES.	DISTRICTS.	DATE OF ISSUE
10	Delingat ...	Delingat ...	5 Jan. 1910.
20	Nazlet El Amndir ...	Samalout ...	6 " "
10	Kafr El Gazzar ...	Kwesna ...	8 " "
10	Grace ...	Abu Kurkas ...	12 " "
10	Ebshaesh ...	Kwesna ...	13 " "
10	Boureig ...	Tanta ...	13 " "
20	Tambisha ...	Kwesna ...	21 " "
20	Grace ...	Abu Kurkas ...	22 " "
10	Zawit Biman ...	Tala ...	26 " "
10	Abyanha ...	Abu Kurkas ...	4 Feb. " "
10	Francees ...	Zifta ...	6 " "
10	Biban ...	Kom Hamadi ...	6 " "
20	Alexandria ...	Alexandria ...	8 " "
10	Kantama ...	Tanta ...	17 " "
10	El Tod ...	Kom Hamadi ...	25 " "
10	Kafr Mit Abu Kom ...	Tala ...	27 " "
20	Kom Shouraik ...	Kom Hamadi ...	6 March "
40	Tambisha ...	Biba ...	14 " "
10	Tambisha ...	Biba ...	15 " "
10	El Zarga ...	Tala ...	15 " "
30	El Balaghreen ...	Maghagha ...	17 " "
20	Abu Sir ...	Giza ...	17 " "
10	Kafr Farsees ...	Zifta ...	20 " "
10	Kafr Mahmoud ...	Teh el Barud ...	27 " "
10	Kuhafa ...	Tanta ...	31 " "
20	Mehallet Dawood ...	Shubrakhit ...	4 April "
20	Maghmeen ...	Kom Ilamadi ...	8 " "
20	Ez. Ashour ...	Damanhur ...	10 " "
10	Sherbin ...	Sherbin ...	15 " "
20	Ez. El Sharika ...	Kafr Dawar ...	17 " "
10	Meh. Dawood ...	Shubrakhit ...	17 " "
10	Ez. Sanonkli ...	Damanhur ...	22 " "
20	Kafr Meh. Hassan ...	Mehalla Kebir ...	22 " "
20	Shisht El Anam ...	Teh el Barud ...	23 " "
10	El Kamaysha ...	Tala ...	26 " "
10	Ez. el Gashingi ...	Damanhur ...	2 May "
20	Mariut ...	Alexandria ...	9 " "
20	Maglis Baladi, Alexandria ...	Alexandria ...	18 " "
10	Siafa ...	Zifta ...	23 " "
30	Delta Barrage ...	Delta Barrage ...	25 " "
10	Kafr Osman ...	Shubrakhit ...	26 " "
10	Kom el Kanater ...	Abu Hommos ...	4 June "
10	Dimshaw Hashim ...	Minia ...	7 " "
10	Kafr Alim ...	Kwesna ...	15 " "
10	Kafr Migahid ...	Kom Hamadi ...	22 " "
20	Zawit Ghazal ...	Damanhur ...	23 " "
10	Kafr Ziada ...	Kom Hamadi ...	27 " "
10	Zifta ...	Zifta ...	28 " "
10	Batanun ...	Shebin el Kom ...	30 " "
10	Mensha ...	Zifta ...	12 July "
10	Diberki ...	Menuf ...	15 " "
10	Kafr Sawalim ...	Teh el Barud ...	19 " "
10	Abu Rukia ...	Etsa, Fayum ...	20 " "
10	Kafr Abu Hassan ...	Kwesna ...	25 " "
20	Baboungi ...	Shubrakhit ...	25 " "
10	Ez. el Mataria ...	Delingat ...	1 Aug. "
20	Ez. Daghashi ...	Abu Hommos ...	1 " "
30	Biban ...	Kom Hamadi ...	19 Sept. "
15	Nabarah ...	Talkha ...	11 Oct. "
10	Kafr el Arab ...	Kwesna ...	12 " "
100	El Maharik ...	Kharga Oasis ...	20 " "
15	Zargana ...	Tala ...	19 Nov. "
20	Orban el Mohit ...	Fashn ...	27 " "
10	El Menshah ...	Zifta ...	4 Dec. "
30	Shintuia ...	Fashn ...	15 " "
15	El Baga ...	Kafr Zayat ...	18 " "
20	Kafr Osman ...	Shubrakhit ...	20 " "
30	Kanatir Delta ...	Kanatir Delta ...	24 " "

In addition to the above, 39 medicine chests were issued to various localities.

TABLE VI *a.*  
LIST OF SMALLPOX AMBULANCES ISSUED DURING 1910.

No. of Beds.	LOCALITIES.	DISTRICTS.	DATE OF ISSUE.
10	El Alami ...	Fayum ...	6 Jan. 1910.
10	Hedair ...	Beni Suef ...	12 " "
20	Bahout ...	Talkha ...	23 " "
20	Tanta ...	Tanta ...	2 Feb. "
10	Tamma ...	Kom Hamadi ...	8 " "
10	Nazzarit Samaris ...	Damanhur ...	9 " "
10	Menshah Otaifa ...	Sennuris ...	14 " "
10	El Amra ...	Menuf ...	14 " "
10	El Tarh ...	Kafr Dawar ...	19 " "
10	Manshia Omar Pasha ...	Damanhur ...	24 " "
10	Ez. Rahmania ...	Shubrakhit ...	25 " "
10	Toukh Dakla ...	Tala ...	1 March "
10	Mit Sirag ...	Kwesna ...	2 " "
10	El Gharak ...	Etsa, Fayum ...	7 " "
10	Kasr Gebali ...	Etsa, Fayum ...	7 " "
10	Toukh ...	Kwesna ...	11 " "
10	Amrous ...	Tala ...	13 " "
10	Mit Rahaa ...	Menuf ...	14 " "
10	Melig Wahissataha ...	Menuf ...	14 " "
5	Ismailia ...	Ismailia ...	5 April "
10	Kom el Dab ...	Menuf ...	7 " "
10	Abu Rish ...	Aswan ...	10 " "
15	Batanoun ...	Shebin el Kom ...	11 " "
10	Ismailia ...	Ismailia ...	17 " "
10	Shubrabas ...	Shebin el Kom ...	17 " "
2	Ismailia ...	Ismailia ...	23 " "
10	Salomon N. ...	Shebin el Kom ...	23 " "
6	Dia el Kom ...	Kwesna ...	4 May "
10	Kamshish ...	Tala ...	16 " "
10	Nikla el Enab ...	Teh el Barud ...	5 June "
10	Mit Faris ...	Shebin el Kom ...	12 " "
10	El Amria ...	Mariut ...	12 " "
20	Makousa ...	Minia ...	17 " "
10	Tamalai ...	Menuf ...	17 Aug. "
10	Kasr Gabali ...	Etsa ...	23 Oct. "
10	Sadmouh ...	Etsa ...	28 " "
10	Bitersa ...	Sennuris ...	12 Nov. "
10	El Naanaia ...	Kanatir Delta ...	26 Dec. "

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In addition to the above, 49 medicine chests were issued to various localities.

Total beds ...	1,105 for Fever Ambulances
	398 for Smallpox " ,
GRAND TOTAL ...	1,503

### (iii) DISPENSARIES.

In last year's report it was stated that "the aim of the Department now is to have a fully equipped dispensary and first aid establishment in each Markaz at the disposal of each Markaz Medical Officer, thus fulfilling the double purpose of bringing medical aid to the people of distant areas and of giving the Medical Officer a fair opportunity of practising the clinical side of his profession. . . . ."

It is satisfactory to be able to report that this object has been finally attained in 1910. No less than 23 dispensaries,\* fulfilling the requirements mentioned, were established during the year, and thus every district in Egypt is furnished with its own dispensary, and every Medical Officer is now provided with the means of practising his profession.

\* Namely, at Abu Hommos, Shebin el Kanater, Ashur, Ayat, Bilbeis, Dessuk, Dekernes, Fakus, Fashn, Fareskur, Hehya, Kafr el Dawar, Kafr el Zayat, Kafr Sakr, Kom Hamada, Maghagha, Mellawi, Mataria, Menuf, Mit Ghamr, Tahta, Tala and Zifta.

TABLE VII.

OUT-PATIENTS TREATED GRATUITOUSLY DURING 1910 (DISPENSARIES).

DISPENSARIES.	Number of Patients.	DISPENSARIES.	Number of Patients.	DISPENSARIES.	Number of Patients.
		<i>Brought forward...</i>	16,027	<i>Brought forward...</i>	32,096
Rosetta ... ... ... ...	840	Menzala ... ... ...	53	Tema ... ... ...	427
El Atf ... ... ... ...	9,800	Embaba ... ... ...	1,438	Akhmim ... ... ...	384
Etiai ... ... ... ...	1,037	El Saff ... ... ...	408	Girga ... ... ...	437
Delingat ... ... ... ...	437	Beba ... ... ...	1,261	Baliana ... ... ...	218
Shubrakhit ... ... ... ...	186	Sennures ... ... ...	225	Nag Hamadi ... ...	156
Baltim ... ... ... ...	581	Its ... ... ...	423	Deshna ... ... ...	187
Barrage ... ... ... ...	520	Beni Mazar ... ...	1,263	Kus ... ... ...	49
Belkas ... ... ... ...	343	Samalut ... ... ...	475	Kosseir ... ... ...	278
Kafr el Sheikh ... ...	98	Abu Kerkas ... ...	389	Edfu ... ... ...	635
Fua ... ... ... ...	400	Wasta ... ... ...	229	El Derr ... ... ...	134
Abu Hommos ... ...	15	Deirut ... ... ...	575	Siwa Oasis ... ...	1,264
Santa ... ... ... ...	724	Manfalut ... ... ...	3,540	Bahria Oasis ... ...	100
Kwesna ... ... ... ...	560	Abnub ... ... ...	650	Dakhla Oasis ... ...	43
Menuf ... ... ... ...	79	Abu Tig ... ... ...	4,540	Kharga Oasis ... ...	551
Ashmun ... ... ... ...	407	Badari ... ... ...	600	Mallawi ... ... ...	1,490
<i>Carried forward...</i>	16,027	<i>Carried forward...</i>	32,096	<b>TOTAL...</b>	<b>38,449</b>

## (iv) PHARMACIES AND PHARMACY LAW.

The following is an extract from the report of Professor Dinkler, Chief Inspector of Pharmacies :—

According to last year's report there were 319 pharmacies existing in Egypt, 159 of which belonged to qualified pharmacists and 160 to unqualified proprietors.

At the end of 1910 there were 335 pharmacies existing, showing thus an increase of 16, of which 5 were established by qualified and 11 by unqualified persons. The fluctuation is divided as follows :—

	CAIRO.		ALEXANDRIA.		PROVINCES.	
	Qualified.	Unqualified.	Qualified.	Unqualified.	Qualified.	Unqualified.
End of 1909 ... ... ... ...	70	60	36	30	53	70
Opened in 1910 ... ... ... ...	3	9	6	1	2	14
Closed in 1910 ... ... ... ...	4	6	1	4	3	3
Showing ... ... ... ...	dimin. 1	increase 3	increase 5	dimin. 3	dimin. 1	increase 11

The diagram (opposite) based on the percentage of the increase and diminution respectively of qualified and unqualified proprietors shows again the increase of the unqualified element in the profession.

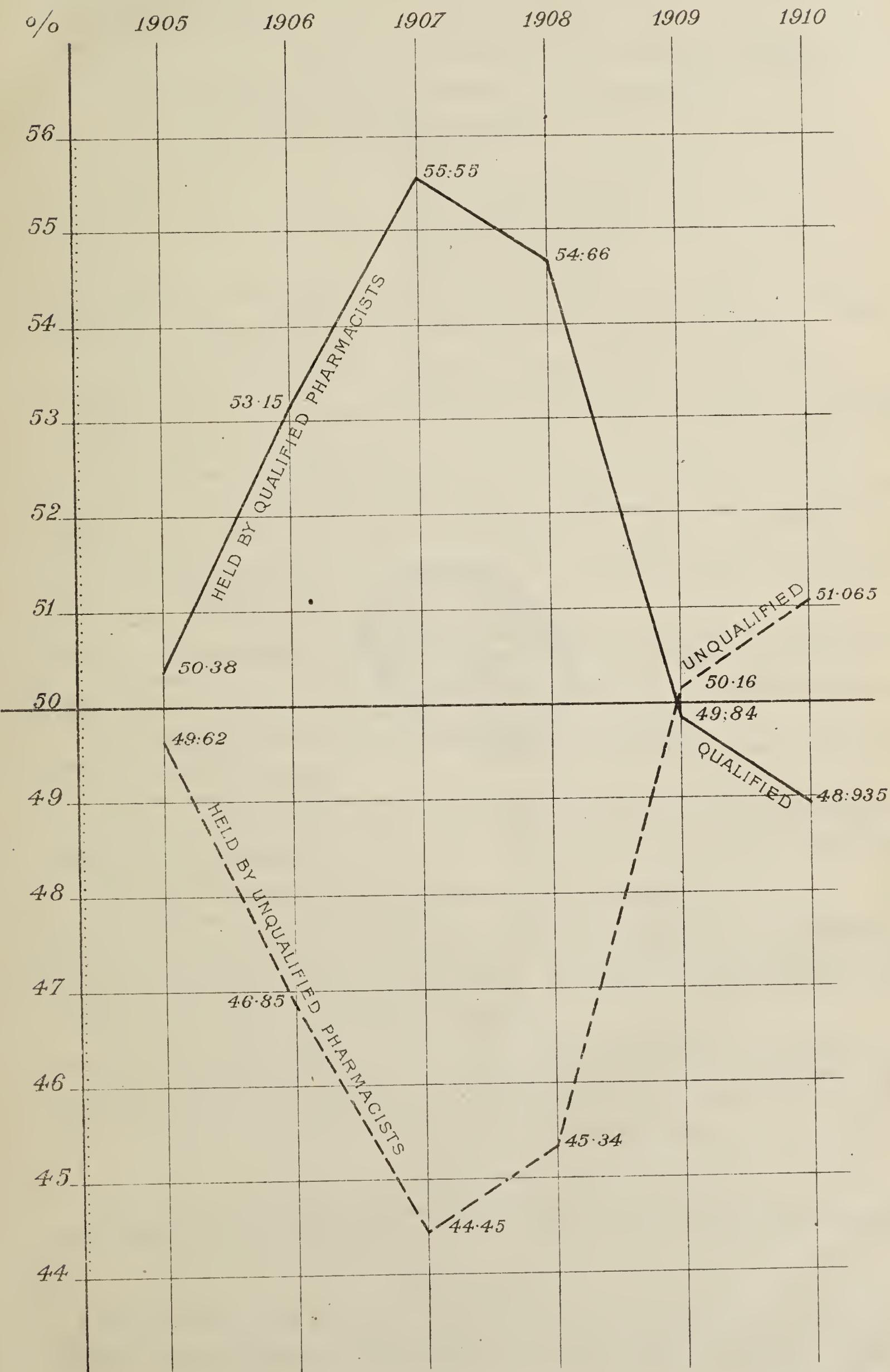
169 inspections were carried out during 1910, *viz.*, 61 in Cairo, 31 in Alexandria, and 77 in the provinces.

As already mentioned in last year's report all inspections are carried out according to a uniform scheme and all objections are recorded and signed by the proprietor and manager and checked off at opportune times.

The results of these inspections are classed as follows :—

	Cairo.	Alexandria.	Provinces.
Good or fairly good ... ... ... ...	51	27	64
Mediocre or bad ... ... ... ...	10	4	13

INCREASE OF PHARMACIES FROM 1904 TO 1910





Mediocre or bad are :—

	Cairo.	Alexandria.	Provinces.
Qualified pharmacists ... ... ... ... ...	3	2	5
Unqualified proprietors ... ... ... ... ...	7	2	8

47 new permits for exercising pharmacy were granted to :—

17 applicants from Constantinople,

- 6      „      „      Athens,
- 6      „      „      Beirut (French school),
- 5      „      „      Beirut (American school),
- 5      „      „      American Universities,
- 7      „      „      European Universities.

The Kasr el Aini school of pharmacy delivered one single diploma to a European candidate. Neither Egyptian nor Ottoman subjects frequented the school.

This school-year 3 students only are attending the pharmaceutical lectures.

Once again I point out the insufficiency of the law in strength and recommend warmly its revision. The new bill is ready and waits only for its promulgation, which is desired by all true pharmacists.

In most cases unqualified proprietors leave the dispensing work to their managers and in all other respects manage the pharmacy themselves, so that, especially with regard to the quality of the drugs, they endeavour to buy the cheapest, for the inferior quality of which the qualified manager is still held responsible and punished, while the proprietor escapes.

During 1910 the re-installation of 44 Government dispensaries was achieved, besides 15 dispensaries in all Kisms of Cairo and one in the Governorate (Police).

33 pharmacies were destined for the Markazes which serve for gratuitous delivery of medicines to the poor ; of these only a few remain to be installed.

All previously issued instructions for all kinds of dispensaries were codified and sent to all persons concerned.

Several communications were sent to the pharmacists, poison sellers and physicians concerning new drugs to be entered in their registers and the dispensing of synthetic products and substitutions.

The hospitals pharmacopœa has been revised and completed.

390 drug samples of uncertain quality were bought and analysed in the Khedivial Laboratory, of which 235 were found good and 155 bad ; the latter were followed in 31 cases by a warning and 98 by a procès-verbal. In addition, a number of deteriorated drugs have been destroyed during the inspections.

From 169 milk samples, 127 good were found and 42 bad ; 8 warnings were communicated to the offenders and 34 procès-verbaux were drawn, among these 7 are under action, 5 have been acquitted and 22 have been sentenced from P.T. 200 to 15 days' imprisonment with hard labour, or 2 months' imprisonment.

#### *Drug Stores.*

At the end of last year 133 stores existed ; these increased to 139 at the end of 1910, 6 having been closed and 12 opened.

#### *Sale of Poisons.*

The struggle against ambulatory poison sellers in the markets remains ineffective owing to the impossibility of acting against persons of unknown domicile. 3 new

authorisations for the sale of poisons were granted during 1910 ; thus there are existing at present 63.

Experience has shown that the only remedy against repeated offences against the law would be to withdraw the licence, a proceeding which is not provided for by the present act ; I therefore would suggest that the necessary measures be taken to strengthen the law in this respect.

All applications for trading with opium were refused according to instructions, and two were withdrawn owing to the death of the holder. Despite the severe control by the customs on the importation of hashish as extract, powder and plant, it is alleged that this drug is freely obtainable at native attarin, pastry-cooks, etc.

Of 72 samples of pills, sweets, and jams, 69 contained hashish as stated by the Khedivial Laboratory, where all these samples were analysed and only 3 were harmless.

With regard to opium the situation remains as before : the importation diminishes and the cultivation seems to increase.

TABLE VIII.

PHARMACIES INSPECTORATE.

Pharmacies in Egypt since the promulgation of the Decree of 1904 :—

1. Total number of pharmacies in Egypt :—

In	1905...	...	...	258
"	1906...	...	...	288
"	1907...	...	...	292
"	1908...	...	...	300
"	1909...	...	...	319
"	1910...	...	...	335

2. Pharmacies belonging to :—

Qualified Pharmacists.			Unqualified Proprietors.
In	1905	130, i.e., 50·38 %	128, i.e., 49·62 %
"	1906	153 " 35·15 %	135 " 64·85 %
"	1907	160 " 55·55 %	132 " 44·45 %
"	1908	164 " 56·66 %	136 " 45·34 %
"	1909	159 " 49·84 %	160 " 50·16 %
"	1910	164 " 48·95 %	171 " 57·05 %

3. Number of inspections made :—

Qualified Pharmacists.			Unqualified Proprietors.
In	1905	156, i.e., 100 % + 20 % re-inspected.	135, i.e., 100 % + 5·46 % re-inspected.
"	1906	153 " 100 % + 0·50 % re-inspected.	135 " 100 %
"	1907	124 " 77·50 %	130 " 98·48 %
"	1908	96 " 58·53 %	107 " 78·67 %
"	1909	108 " 67·93 %	102 " 63·75 %
"	1910	70 " 42·58 %	99 " 52·04 %

4. Inspections mediocre or bad :—

Qualified Pharmacists.			Unqualified Proprietors.
In	1905	93, i.e., 59·61 %	99, i.e., 77·34 %
"	1906	58 " 37·90 %	41 " 30·37 %
"	1907	42 " 33·87 %	45 " 34·61 %
"	1908	19 " 19·79 %	22 " 20·56 %
"	1909	17 " 15·74 %	33 " 32·35 %
"	1910	10 " 14·29 %	17 " 17·18 %

## (v) MEDICAL PRACTICE AND AUTHORIZATIONS.

Attention was drawn last year to the defects in the law on the practice of medicine and allied professions. It is admitted on all hands by representative individuals of the medical profession that some control of its members is essential, and, in fact, voluntary societies have been formed to deal with unprofessional conduct amongst their members by courts of honour.

It is obvious that the effect of such societies can only be partial, but the formation of such societies shows that the time is ripe for legislation. The principal defects in the present law, which dates from June 1891, are (1) the absence of any provision for revoking the licence to practice; (2) the absence of a clear statement that the diploma entitles the holder to practice in the country of origin; (3) the absence of any provisions making compulsory the communication to a central authority of changes of address.

Reference was made in last year's report to the importance of filling up the first and second of these defects; the absence of provision for the communication of changes of address makes it impossible to keep up a correct register and thereby facilitates personation and substitution.

The number of authorizations to practice issued during the year was as follows:—

PROFESSION.,	British.	French.	German.	Russian.	Italian.	Austro-Hungarian.	Ottoman.	Spanish.	Swiss.	Danish.	Greek.	American.	Dutch.	Egyptian.	TOTAL.
Medicine ... ... ...	8	4	1	3	8	5	14	...	1	1	15	4	...	34	98
Pharmacy ... ... ...	3	2	2	3	...	...	14	...	...	...	4	1	...	18	47
Veterinary ... ... ...	...	...	...	...	...	...	...	...	...	...	1	...	...	2	3
Midwives ... ... ...	3	...	...	...	...	1	1	...	...	...	...	...	...	10	15
Dental ... ... ...	1	...	1	1	...	1	...	1	...	...	1	1	1	...	8
GRAND TOTAL... ...															171

## (vi) MEDICAL EDUCATION.

The curriculum remains the same. During the year 1910 the 53 students who entered in 1906 were due to acquire their diplomas. Of these students, 6 had left at their parents' request, 1 was dismissed, 1 was transferred to another college, 3 left to complete their studies in Europe, 20 remained in the school (not having acquired their diplomas), while 22 passed their final examination and received their diplomas.

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*B.—SPECIAL DEPARTMENTS.*

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## (i) LUNATIC ASYLUM AND ADMINISTRATION IN LUNACY.

During the past year the accommodation of the Abbassia Lunatic Asylum has been increased (by the completion of an additional section) from 947 beds to 1,007.

The number of inmates, however, has risen from 1,150 to 1,504, showing an excess of 297 over the accommodation actually provided; a condition of over-crowding verging on 30 per cent. of the accommodation. In addition, 327 persons still insane have been discharged, in many cases on account of lack of room.

It is expected that the first instalment of the new Asylum at Khanka will be completed during 1911, and this will provide accommodation for 240.

Certain structural additions and alterations at Abbassia will result in provision of accommodation for 143 more, so that in the course of 1912 it may be anticipated, on the present programme, that the total lunatic accommodation will amount to 1,390.

Dr. Warnock estimates that the total number of lunatics under restraint at the end of 1911 will be at least 1,520, and that this number will increase thereafter at about 150 per annum, so that at the end of 1915 accommodation will be required for about 2,150.

The total number of insane admitted to the Asylum in 1910 was 772. There were 492 discharges, and 126 deaths, leaving an ultimate residue of 154 as the increase of the Asylum population.

As regards causation of insanity, it is interesting to note that, omitting "cause unknown" (293), the first three places are still—as in recent years—occupied by pellagra (109), hashish (67), and alcohol (45), out of a total of 772 admissions.

The investigation of pellagra in this country has been unfortunately, though of necessity, interrupted by the pressure of other work, and the scantiness of expert staff, but it is hoped that this interesting disease and its connection with insanity will be very shortly again placed under examination. The very suggestive reports of Dr. Sambon (lately employed on a pellagra mission in Italy) are of considerable interest, but the propositions put forward in them undoubtedly stand in need of confirmation and of examination by the light of observed facts.

In last year's note it was stated that "the Department is now engaged in drafting the lines of a simplified Lunacy Law, which it is hoped may at least afford a certain degree of legality and authorized procedure in a very difficult branch of administration." It can now be stated that this draft (with the assistance of Mr. Vaughan Williams, of the Ministry of Justice) has practically assumed its approximately definite shape, and only requires the final steps in routine procedure to become law.

The question of a Lunacy Law has long engaged the attention of the asylum authorities and of this Department. On the assumption that the drafting of such a law raised questions of great complexity, an inter-departmental committee first studied the whole matter exhaustively. The result of its labours was to show that, whatever complexities there might exist, these were best avoided by putting into legal form the present administrative procedure, with a few changes which experience had shown to be necessary. As pointed out by Mr. Vaughan Williams in his note on this draft, only detention of lunatics by the State has been dealt with under the new law, leaving the private detention of lunatics for subsequent treatment, if necessity arises.

One change of considerable importance has been introduced. Under the procedure hitherto followed, the certificate of the local medical officer and the "order" of the local administrative authority are the only official documents authorizing a patient to be sent to, and retained in, an asylum. The local medical officer is not an expert in lunacy, and the administrative order is signed by any police officer who happens to be acting for the Mamour, and who probably has no knowledge whatever of the case.

It does not seem to this Department that such documents are of sufficient weight to authorize the detention of a lunatic in an asylum for an indefinite period. It has therefore been decided that the local medical certificate and administrative order shall be of a provisional value only, and this to serve the purpose of sending the patient to the asylum and to retain him there for a sufficient length of time to allow the lunacy expert to form

his opinion on the case. The final detention in the asylum shall be authorized only by the Ministry of Interior, on a certificate of the expert that the man is insane.

By this provision the procedure under the new law will be brought into accordance with the accepted principles of lunacy administration in other countries.

TABLE IX.

## GOVERNMENT HOSPITAL FOR THE INSANE, ABBASSIA (CAIRO).

	CASES.	1909.	1910.
Existing ... ... ... ... ... ... ...	{ Males ... ... ... Females ... ... ... Total ... ... ...	741 276 1,017	832 318 1,150
Admissions, once or more ... ... ... ...	{ Males ... ... ... Females ... ... ... Total ... ... ...	431 147 578	538 234 772
Discharged... ... ... ... ...	{ Males ... ... ... Females ... ... ... Total ... ... ...	264 73 337	363 129 492
Died ... ... ... ... ...	{ Males ... ... ... Females ... ... ... Total ... ... ...	76 32 108	84 42 126
Remaining... ... ... ... ...	{ Males ... ... ... Females ... ... ... Total ... ... ...	832 318 1,150	923 381 1,304
Admitted more than once during the same year ...	Total ... ... ...	18	35
Cases found not to be insane ... ... ...	Total ... ... ...	15 *	16
Number of re-admissions of patients discharged in previous years ... ... ...	{ Males ... ... ... Females ... ... ... Total ... ... ...	94 18 112	126 49 175

TABLE X.

## ADMISSIONS TO GOVERNMENT HOSPITAL FOR THE INSANE, ABBASSIA (CAIRO).

	PATIENTS COMING FROM:	1909.	1910.
Governorates ... ... ... ... ...	{ Cairo ... ... ... Alexandria ... ... Suez ... ... ... Port Said and Canal ...	226 46 11 9	318 80 12 20
Mudirias, Lower Egypt ... ... ...	{ Kaliubia ... ... ... Sharkia ... ... ... Gharbia ... ... ... Dakahlia ... ... ... Menufia ... ... ... Behera ... ... ...	22 40 53 23 23 12	32 30 53 25 39 15
Mudirias, Upper Egypt ... ... ...	{ Giza ... ... ... Fayum ... ... ... Beni Suef ... ... Minia ... ... ... Assiut ... ... ... Girga ... ... ... Kena ... ... ... Aswan ... ... ...	9 4 7 11 28 11 7 2	13 7 10 17 21 16 10 2
Sudan ... ... ...	... ... ... ... ...	2	1
	Total ... ... ...	546	721
Admitted more than once during the same year ...	... ... ... ... ...	18	35
Cases found not to be insane ... ... ...	... ... ... ... ...	15 *	16
	GRAND TOTAL ... ...	578	772

\* 15 (or 14 patients, one being admitted twice in 1909).

(ii) OPHTHALMIC HOSPITALS.

The permanent ophthalmic hospital at Tanta has been at work throughout the year ; the new hospital at Assiut will be ready for opening at the end of January, 1911, and the building of Mansoura ophthalmic hospital is proceeding. The two travelling camps have worked throughout the year at Luxor, Zifta, Aswan, Beni Suef, and Sohag. Every Mudiria has now been visited at least once by a travelling hospital.

Two new permanent ophthalmic hospitals are projected ; one at Beni Suef, where the sum of L.E. 4,000 has been subscribed and a site given by Mustapha Bey Ghamrawi, the other at Zagazig, where the Provincial Council has voted the sum of L.E. 4,000 and Rizkalla Bey Shedid has given the site.

The number of patients treated during 1910 was 14,342 ; these cases were selected for treatment from 25,514 applicants. 11,486 operations were performed, of which 347 were for the removal of cataract.

8,159 persons requiring operations for in-growing eyelashes were seen, the number of successful operations performed for this condition being 2,262.

Blindness in one or both eyes afflicted 17·43 per cent. of the total number of patients examined, the highest percentage of total blindness as yet found in Egypt being at Aswan and Sohag.

About one-quarter of the patients accepted for treatment were children under ten years of age.

TABLE XI.

OPHTHALMIC HOSPITALS.

	1904	1905	1906	1907	1908	1909	1910
Hospitals in existence :							
1. Travelling ... ... ...	1	2	2	2	2	2	2
2. Permanent ... ... ...	—	—	—	—	1	1	1
New patients treated... ... ...	2,954	4,210	7,327	7,446	7,794	12,092	14,342
Total attendance of out-patients	15,039	50,680	94,204	146,830	132,278	177,761	190,247
Operations performed ... ...	1,282	2,480	5,846	6,794	6,426	9,930	11,486

Details :—

Patients examined ... ... ... ... ... ... ... ... ... ...	19,614	22,373	25,514
Patients regularly treated ... ... ... ... ... ... ... ... ...	7,794	12,092	14,342
Incurable cases ... ... ... ... ... ... ... ... ...	4,550	2,302	1,776
Blind in one eye ... ... ... ... ... ... ... ...	1,189	2,116	2,438
Blind in both eyes ... ... ... ... ... ... ...	852	1,385	2,010
Trichiasis cases examined ... ... ... ... ... ...	8,159	10,060	7,507
„ „ „ operated on and cured ... ... ... ...	2,262	3,128	2,022

New patients treated per age :—

Under 1 year ... ... ... ...	247	516	457
From 1 to 5 years... ... ... ...	585	1,645	1,497
„ 6 „ 10 „ ... ... ... ...	902	1,442	1,469
„ 11 „ 15 „ ... ... ... ...	849	1,294	1,475
„ 16 „ 20 „ ... ... ... ...	829	1,156	1,499
„ 21 „ 40 „ ... ... ... ...	2,584	3,775	4,845
41 and over ... ... ... ...	1,798	2,206	3,100

TABLE XII.

## OPHTHALMIC HOSPITALS, 1910.

	TOTAL.	PER-MANENT.	No. 1, TRAVELLING.			No. 2, TRAVELLING.	
			Tanta.	Luxor.	Zifta.	Aswan.	Beni Suef.
1. In-patients ... ... ... ... (Number of available beds, 78)	1,910	243	36	1,328	16	82	205
2. Operations ... ... ... ...	11,486	4,811	1,145	2,030	711	2,438	351
i. Major :—							
(a) Senile cataract... ... ...	222	44	56	25	9	88	...
(b) Soft cataract ... ... ...	125	56	5	23	...	38	3
(c) Trichiasis ... ... ...	3,022	1,299	242	611	166	651	53
(d) Other operations ... ...	1,018	291	135	229	38	287	38
ii. Minor :—							
(a) Scraping lids of Trachoma patients ... ... ...	5,125	2,425	483	800	297	966	154
(b) Other operations ... ...	1,974	696	224	342	201	408	103
3. Out-patients :—							
i. Incurable... ... ... ...	1,776	213	266	468	152	444	233
ii. Postponed ... ... ... ...	9,397	1,134	2,002	3,053	182	2,152	874
iii. Tickets issued, <i>i.e.</i> , new cases.	14,342	4,850	1,147	2,745	1,454	3,148	998
iv. Old cases... ... ... ...	164,733	54,289	21,538	32,999	9,753	42,495	3,659
v. Visits made by patients to hospital for treatment ...	190,247	60,486	24,952	39,265	11,541	48,239	5,764
vi. Average number of visits made to hospital by each patient under regular treatment ... ... ... ...	13·7	12·0	25·2	13·02	7·0	13·5	4·6
vii. Discharges :—							
(a) Cured ... ... ... ...	1,019	306	163	292	14	243	1
(b) Relieved ... ... ... ...	820	153	193	244	14	209	7
(c) Incurable ... ... ... ...	2,315	321	329	385	208	675	397
(d) Spontaneously ceased to attend after having attended only once ... ...	2,307	757	213	406	317	481	133
(e) Spontaneously ceased to attend after having attended more than once...	7,983	3,459	644	831	679	2,193	177
viii. Trichiasis cases seen among patients :—							
(a) No previous operation having been performed.	7,507	1,723	1,151	1,707	287	2,157	482
(b) Previous operation performed :—							
1. Successfully ... ... ...	156	74	18	14	...	46	4
2. Unsuccessfully ... ...	946	496	122	36	7	275	10
ix. Ophthalmoscope and refraction cases ... ... ... ...	2,674	796	336	610	214	439	279
x. General anaesthetics ... ...	3,121	1,050	375	574	225	795	102

TABLE XII.—*continued.*

## xi. Towns in which hospital is situated :—

						Applications for Treatment.	Treated.
Tanta	...	...	...	...	...	6,197	4,850
Luxor	...	...	...	...	...	3,414	1,147
Zifta	...	...	...	...	...	6,266	2,745
Aswan	...	...	...	...	...	1,788	1,454
Beni Suef	...	...	...	...	...	5,744	3,148
Sohag	...	...	...	...	...	2,105	998
				Total	...	25,514	14,342

## xii. Ages of patients examined :—

	Tanta.	Luxor.	Zifta.	Aswan.	Beni Suef.	Sohag.	Total.
(a) Under one year ...	214	22	82	15	116	8	457
(b) From 1 to 5 years ...	664	122	328	45	252	86	1,497
(c) From 5 to 10 years ...	419	169	361	185	250	85	1,469
(d) From 10 to 15 years ...	409	180	375	180	232	99	1,475
(e) From 15 to 20 years ...	502	107	232	46	525	87	1,499
(f) From 20 to 40 years ...	1,872	304	961	347	1,060	301	4,845
(g) 40 years and over ...	770	243	406	636	713	332	3,100
							14,342

## xiii. Origin of patients:—

	Tanta.	Luxor.	Zifta.	Aswan.	Beni Suef.	Sohag.	Total.
Patients from town in which hospital is situated ...	1,688	292	713	803	986	313	4,795
Patients from Markaz in which hospital is situated ...	1,114	501	595	488	1,782	529	5,009
Patients from other Markazes ...	2,048	354	1,437	163	380	156	4,538
							14,342

## xiv. Hospital at work at the following places during the following periods :—

Upper Egypt ...	{	(a) Luxor... ...	January 1st to April 13th.					
		(b) Beni Suef ...	January 1st to September 15th.					
		(c) Aswan ...	November 1st to December 31st.					
		(d) Sohag... ...	December 3rd to December 31st.					
Lower Egypt ...	{	(a) Tanta ... ...	January 1st to December 31st.					
		(b) Zifta ... ...	May 8th to November 4th.					
		Tanta.	Luxor.	Zifta.	Aswan.	Beni Suef.	Sohag.	Total.
Number of full days' work ...	304	88	153	50	217	22	834	
Number of half days, i.e., Government holidays (Fridays not counted) ...	9	2	4	...	5	3	23	

## BLINDNESS.

	Total Number of Patients examined.	(a) MONOCULAR.		(b) BINOCULAR.		TOTAL (a) AND (b)	
		Number of Cases.	Per Cent.	Number of Cases.	Per Cent.	Number of Cases.	Per Cent.
Tanta ...	6,197	663	10·69	337	5·34	1,000	16·03
Luxor ...	3,414	209	6·12	261	7·64	470	13·76
Zifta ...	6,266	421	6·71	392	6·25	813	12·97
Aswan ...	1,788	193	10·78	302	16·33	495	27·11
Beni Suef ...	5,744	754	11·38	380	6·61	1,134	17·99
Sohag ...	2,105	198	9·45	338	16·14	536	25·59
	25,514	2,438	9·54	2,010	7·87	4,448	17·43

(iii) MEDICO-LEGAL REPORTS.

The number of medico-legal reports drawn up by medical officers of this Department, during 1910, amounts to 39,626 as compared with 41,121 in 1909.

Under Art. 205 of the Penal Code, temporary infirmities caused by blows or wounds which lead to incapacity for personal labour exceeding 20 days are punished by imprisonment not exceeding two years, or by a fine not exceeding L.E. 50; under Art. 206, if the incapacity is for a period less than 20 days, the punishment is by imprisonment not exceeding one year, or by a fine not exceeding L.E. 10.

Medical officers are therefore required, besides describing the injury and stating its probable cause, to state the length of time for which the patient will probably be incapacitated by his injury; at the end of the period fixed the medical officer must again examine the patient to see whether the period originally fixed will be exceeded.

From the medical point of view the length of incapacity for work seems a very proper basis for the granting of civil damages, but in criminal cases it gives very curious results when used as the measure of the gravity of a crime.

Thus a fellah's knuckles may be damaged with a nabout and take 21 days to heal, or he may be wounded by a gun-shot of criminal intent and a few pellets only penetrating his skin, the wounds may be healed in a few days.

Again a small wound in the palm of the hand may incapacitate a carpenter for a considerable period, whereas a large contused scalp wound may prevent him from following his occupation for a few days only.

The medical officer, however, to be on the safe side, certifies as to the length of time which the wound will require for healing; this period of healing, as is shown above, may have very little relation to the serious nature of the wound or to the length of incapacity for work.

The medico-legal certificate is therefore, in a very great number of the trivial and accidental cases, useless. The drawing up of this vast number of reports has become a serious matter to this Department, as it has been calculated that this work, with the journeys, etc., which it entails, absorbs about one-third of the time of each Markaz medical officer and prevents him from attending properly to the Public Health work for which he is primarily engaged.

If Public Health work in the provinces is to be progressive, either an increased staff of medical officers must be provided, or some alteration must be made in this system of medico-legal reports which will result in a substantial reduction in their number.

*Medico-Legal Reports.*

		1909.	1910.
Slight cases {	Accidental ... ... ...	5,409	4,314
	Criminal ... ... ...	26,233	26,405
Severe cases {	Accidental ... ... ...	5,996	5,876
	Criminal ... ... ...	3,483	3,031

(iv) MEDICAL COMMISSIONS (CAIRO, LONDON, PARIS).

No change has taken place in the constitution of these bodies. The work of the Cairo Commission continues to show a small but steady increase, (*vide* Table XIII).

No returns have this year been received from the London and Paris Boards.

TABLE

## STATISTICAL RETURN OF THE

MINISTRIES AND ADMINISTRATIONS.	At examination by Commission.	Vide certificate approved.	FIT.		UNFIT.		Post- poned for some time and re-exam- ined.	Standing cases of vision up to Dec. 1910.		
			“Maladie légère.”		Vision.	Other diseases.				
			Vision.	Other diseases.						
Ministry of Interior ... ... ... ...	209	...	...	...	69	22	8	7		
Department of Public Health ... ...	54	...	5	...	10	6	...	6		
Prisons Department ... ... ... ...	6	...	...	...	1	...	...	...		
Slave Trade Department ... ... ...	...	...	...	...	...	...	...	...		
Ministry of Finance ... ... ... ...	106	...	...	...	9	6	4	4		
Survey Department ... ... ... ...	20	...	...	...	1	2	1	2		
Coast Guard Administration ... ...	25	...	...	...	7	2	...	...		
Ports and Lighthouses Administration ...	...	...	...	...	...	...	...	...		
Public Debt Department ... ... ...	2	...	...	...	...	...	...	...		
Custom Houses Administration ...	...	...	...	...	...	...	...	...		
Ministry of Public Works ... ... ...	65	...	2	...	3	3	2	9		
War Office ... ... ... ...	30	...	...	...	2	1	1	4		
Ministry of Foreign Affairs ... ... ...	...	...	...	...	...	...	...	...		
Ministry of Justice ... ... ... ...	61	...	2	...	13	4	1	9		
Courts ... ... ... ...	29	...	1	...	3	...	1	4		
Mixed Tribunals ... ... ... ...	19	...	1	...	...	1	1	2		
Ministry of Education ... ... ... ...	121	7	8	...	13	12	7	9		
Postal Administration ... ... ...	63	...	...	...	4	...	...	8		
State Railways Administration ...	132	...	4	...	26	6	4	15		
State Telegraphs Administration ...	21	...	3	...	16	1	...	5		
Council of Ministers ... ... ...	...	...	...	...	...	...	...	...		
National Printing Office ... ... ...	1	...	...	...	...	...	...	...		
Sudan Government ... ... ... ...	...	...	...	...	...	...	...	...		
Ministry of Finance Contentieux ...	1	...	...	...	...	...	...	...		
Alexandria Municipality ... ... ...	...	...	...	...	...	...	...	...		
Wakfs Administration ... ... ...	38	...	1	...	7	2	1	4		
Legislative Council ... ... ... ...	2	...	...	...	...	...	...	...		
Gharbia Mudiria ... ... ... ...	...	...	...	...	...	...	...	...		
Menoufia „ ... ... ... ...	...	...	...	...	...	...	...	...		
Kalioubia „ ... ... ... ...	...	...	...	...	...	...	...	...		
Dakahlia „ ... ... ... ...	...	...	...	...	...	...	...	...		
Sharkia „ ... ... ... ...	...	...	...	...	...	...	...	...		
Behera „ ... ... ... ...	...	...	...	...	...	...	...	...		
Giza „ ... ... ... ...	...	...	...	...	...	...	...	...		
Fayoun „ ... ... ... ...	...	...	...	...	...	...	...	...		
Beni Souef „ ... ... ... ...	...	...	...	...	...	...	...	...		
Minia „ ... ... ... ...	...	...	...	...	...	...	...	...		
Kena „ ... ... ... ...	...	...	...	...	...	...	...	...		
Cairo Governorate ... ... ... ...	1	...	...	...	...	...	...	...		
Khedivial Khassa ... ... ... ...	...	...	...	...	...	...	...	...		
GRAND TOTAL ... ... ...	1,006	7	27	...	184	68	31	88		

## XIII.

## MEDICAL COMMISSION, 1910.

Unfit, vide certificate approved.	Unfit examined by Commission.	PENSIONS.				LEAVES.				HEIRS.				TOTAL.	
		Grand Mal.	Petit Mal.	Found fit for duty.	Granted, vide certificate approved.	Granted after examination by Commission.	Refused.	Age.	Expert opinion taken.	Able to obtain livelihood.	Unable to obtain livelihood.	Age.	Recommended for pension for some time and re-examination.	Sent to hospital for treatment, observation and report.	
41	57	4	...	16	44	67	9	7	3	...	...	...	...	2	565
3	19	1	...	4	37	30	3	7	4	...	...	...	...	189	
1	1	...	...	2	1	1	...	8	...	...	...	...	...	21	
2	2	...	...	1	...	...	...	...	...	...	...	...	...	3	
1	39	9	2	5	46	37	5	17	2	...	...	2	1	295	
7	7	...	...	3	5	5	1	1	1	...	...	...	...	49	
1	3	...	...	3	...	...	2	1	...	...	...	...	...	42	
1	1	...	...	...	...	...	...	...	...	...	...	...	...	3	
...	...	...	...	...	...	4	...	...	...	...	...	...	...	2	
1	30	1	...	5	12	28	9	14	...	...	...	1	...	185	
12	2	...	...	1	...	...	...	2	...	...	...	...	...	55	
...	5	7	...	4	18	20	10	8	2	...	...	...	...	1	
2	1	1	...	1	13	13	8	6	1	...	...	...	...	164	
...	...	...	...	...	1	5	...	9	1	...	...	...	...	84	
...	6	...	...	1	25	29	5	9	...	...	...	...	...	40	
1	12	2	...	4	4	17	13	1	1	...	...	...	...	252	
1	1	21	4	2	...	...	...	1	2	...	...	...	...	130	
5	5	1	...	...	1	...	...	...	...	...	...	...	...	218	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	52	
...	6	...	...	...	1	3	1	...	...	...	...	...	...	1	
...	...	...	...	...	1	...	...	...	...	...	...	...	...	13	
...	1	...	...	...	...	...	...	...	...	...	...	...	...	1	
...	...	...	...	...	...	2	1	...	...	...	...	...	...	2	
6	6	...	...	3	...	...	...	2	...	...	...	...	...	64	
...	...	...	...	...	7	...	1	...	...	...	...	...	...	2	
...	...	...	...	...	2	...	...	...	...	...	...	...	...	8	
...	...	...	...	...	4	...	...	...	...	...	...	...	...	2	
...	...	...	...	...	3	1	...	...	...	...	...	...	...	4	
...	...	...	...	...	1	...	...	...	...	...	...	...	...	1	
...	...	...	...	...	6	3	...	...	...	...	...	...	...	9	
...	...	...	...	...	2	1	...	...	...	...	...	...	...	2	
...	...	...	...	...	3	...	...	...	...	...	...	...	...	3	
...	...	...	...	...	1	...	...	...	...	...	...	...	...	3	
1	1	...	...	1	2	...	2	2	7	10	4	6	...	36	
1	1	1	...	1	1	...	...	1	...	...	...	...	...	5	
52	236	33	2	57	244	271	66	95	21	7	13	4	7	2	2,521

(v) GENERAL STORES FOR EQUIPMENT AND SUPPLIES.

The reorganization of the stores section referred to in last year's report is still under consideration pending the promulgation, by the Ministry of Finance, of a general stores regulation for all Government Departments.

The following adjudications were made during the year :—

	L.E.
1. Drugs, dressings and dispensary appliances ... ... ... ... ...	8,858
2. Drugs and medicines for Prisons Department, Coast Guard Administration, and Police School... ... ... ... ...	549
3. Alcohol ... ... ... ... ...	391
4. Soft soap and crude carbolic acid ... ... ... ... ...	1,864
5. General equipment ... ... ... ... ...	8,563
6. Calico No. 3 and khakee suits ... ... ... ... ...	669
7. Shoes and slippers ... ... ... ... ...	667
8. Equipment for Epidemic Stores ... ... ... ... ...	1,412
9. Hospital rations ... ... ... ... ...	20,806
10. Soap for washing... ... ... ... ...	877
11. Candles... ... ... ... ...	47
12. Petroleum ... ... ... ... ...	330
13. Flour for Lunatic Asylum... ... ... ... ...	3,412
14. Bread for Cairo Hospitals... ... ... ... ...	1,494
15. Meat for Cairo Hospitals ... ... ... ... ...	7,530
16. Coal ... ... ... ... ...	2,699
17. Rabbits for Anti-Rabic Institute ... ... ... ... ...	286
18. Cyprus bulls... ... ... ... ...	1,644
19. Diphtheria Serum (agreement)... ... ... ... ...	452
20. Forage for Scavenging and Watering Service :—	
(a) Tibbn ... ... ... ... ...	1,876
(b) Straw-bedding ... ... ... ... ...	415
(c) Barley and bran were obtained for the S. and W. S. from the War Department to the amount of ... ... ... ... ...	6,898
21. Forage for Serum Institute :—	
(a) Tibbn ... ... ... ... ...	520
(b) Beans ... ... ... ... ...	992
(c) Hay ... ... ... ... ...	640
(d) Bersim ... ... ... ... ...	118
(e) Green dhurra ... ... ... ... ...	148
	<u>2,418</u>
22. Winter clothing for shawishes ... ... ... ... ...	195
	<u>Total... ...</u>
	<u>74,362</u>

In addition to the adjudications, 1,268 local and foreign orders were sent out against Stores Chapter, 286 against Plague and 437 against Prophylactic and Miscellaneous Chapters.

Tinctures, syrups, mixtures, etc., prepared at the Department's Laboratory are as follows :—

Acetum Scillae... ... ... ... ...	kilos.	131
Diluted acids ... ... ... ... ...	"	264
Bandages, various measurements... ... ... ...	number	248,344
Colouring matters ... ... ... ... ...	kilos.	138
Dressing ... ... ... ... ...	"	662
Eau de goudron, bottles of 300 grammes ... ...	number	156
Eye drops... ... ... ... ...	kilos.	374
Eye drops, bottles of 30 grammes ... ... ...	bottles	6,767
Eye powder, boxes of 30 grammes ... ... ...	boxes	13,900

Liniments	...	...	...	...	...	...	...	...	kilos.	153
Liquors	...	...	...	...	...	...	...	...	"	401
Mixtures	...	...	...	...	...	...	...	...	"	194
Oils	...	...	...	...	...	...	...	...	"	152
Oils, in 30-gramme bottles	...	...	...	...	...	...	...	bottles	2,813	
Oil, in 60-gramme bottles	...	...	...	...	...	...	...	"	4,147	
Oil, in 300-gramme bottles	...	...	...	...	...	...	...	"	259	
Ointments	...	...	...	...	...	...	...	kilos.	2,834	
Powders	...	...	...	...	...	...	...	"	152	
Sublimate tabloids of 1 gramme each.	...	...	...	...	...	...	...	tablets	13,127	
Sublimate tablets, in 100-tablet bottles	...	...	...	...	...	...	...	number	362	
Syrups	...	...	...	...	...	...	...	kilos.	3,866	
Syrups, in 300-gramme bottles	...	...	...	...	...	...	...	number	3,388	
Tinctures	...	...	...	...	...	...	...	kilos.	2,160	
Vinum Ipecac.	...	...	...	...	...	...	...	"	150	
Vinum Cinchonæ, in 300-gramme bottles	...	...	...	...	...	...	...	number	342	

*Transport Section.*—16 mules and 2 horses were attached to the Central Stores for the transport of goods and patients.

*Rinderpest Serum.*— 73,964 doses were issued during the year; each dose of 50 centigrammes.

*Instrument Shop.*—About 10,000 instruments, etc., were repaired and sharpened during the year.

*Ambulances.*—Issued for smallpox ... ... ... 37 of 388 beds.  
 " " fever... ... ... 70 of 1,105 "  
 In addition, 83 medicine boxes were issued.

*Hospitals.*— Number of beds in Hospitals supplied and fitted out:—

First and second class	...	...	...	...	...	...	404
Third class...	...	...	...	...	...	...	<u>3,183</u>
				Total...	...	...	3,587

<i>Epidemic Store.</i> —	Disinfecting gangs	...	...	...	...	...	30
	Canteens for disinfectors	...	...	...	...	...	70
	9 ambulances for ...	...	...	...	...	beds	98

*Dispensaries.*—45 dispensaries are supplied with drugs and specialities prepared by the Department against payment.

32 Dispensaries were opened during the year in different parts of the country for issuing simple drugs and medicines to the poor.

The following table shows the various sections of the stores, the number of the categories of articles kept in each section and the estimated value of materials in store :—

SECTION.	Categories of Articles. *	Value of Existing Material. *
		Number
1. Equipment Store ...	1,840	15,190
2. Drug Store ...	1,200	10,000
3. Surgical Instruments ...	582	500
4. Epidemic Store ...	850	5,000
5. Transport Section ...	Vehicles, animals and harness, etc.	1,500
TOTAL... ...	...	32,190

\* Approximate round numbers.

## PART II.—PUBLIC HEALTH.

### A.—GENERAL CONSIDERATIONS.

#### (i) CENSUS.

Certain aspects of the census taken in 1907 were referred to in last year's report.

The last column of the following table gives the calculated population to 1st July, which is the figure on which the annual statistics are based.

TABLE XIV.

POPULATION OF THE TWENTY PRINCIPAL TOWNS OF EGYPT (EGYPTIANS AND FOREIGNERS).

TOWNS.	Census 1907.	Estimated Increase from Census 1907 to 1st July, 1910.	Calculated Population to 1st July, 1910.
Cairo ...	654,476	28,477	682,953
Alexandria ...	370,009	17,907	387,916
Damietta ...	29,354	2,892	32,246
Tanta ...	54,437	1,207	55,644
Mansura ...	40,279	1,618	41,897
Damanhur ...	38,996	2,016	41,012
Zagazig ...	34,999	1,405	36,404
Shibin el Kom ...	21,576	1,379	22,955
Giza ...	16,487	616	17,103
Benha ...	15,182	1,897	17,079
Port Said ...	49,884	2,927	52,811
Suez ...	18,347	632	18,979
Ismailia ...	10,373	1,154	11,527
Fayum ...	37,320	1,184	38,504
Beni Suef ...	23,357	2,473	25,830
Minja ...	27,390	796	28,186
Assiut ...	39,442	1,179	40,621
Sohag ...	17,514	881	18,395
Kena ...	20,069	493	20,562
Aswan ...	12,618	155	12,773
Total ...	1,532,19	71,288	1,603,397

#### (ii) REGISTRATION OF BIRTHS AND DEATHS.

An amended law on this subject was put before the Legislative Council and is expected to be promulgated in the current year (1911).

The chief points on which this law lays stress are :—

- (1) The assimilation of the Europeans to the Egyptians in the matter of compulsory registration, and
- (2) Provision for registration of the stillborn.

#### (iii) VILLAGE BARBERS AND ORGANIZATION.

The principle of paying a certain limited number of village barbers was maintained during the year and, on the whole, the scheme produced good results ; but both time and

money are still wanted to organize this service on such a basis as can be expected to invite confidence.

(iv) KUTTABS.

No remarks of any special import have to be registered under this heading.

(v) INFANTILE MORTALITY.

It is satisfactory to be able to report that the sudden and sensational wave of infantile mortality which occurred in the spring and early summer of 1909 was not repeated in 1910.

Investigation certainly tends to show that whatever the proximate cause of the fatal gastro-enteritis may be, its varying incidence is closely connected with climatic conditions. It is clear, also, that much depends on the care and intelligence with which infants are nursed and fed, and that wherever these conditions are of a higher order, the mortality is the lowest and vice versa.

The "Lady Cromer" Dispensaries, to which reference was made last year, have continued their good work, and at the two institutions now open, no less than 18,366 new cases and 130,000 attendances were registered.

The "Société pour la Protection de l'Enfance," which is under the presidency of H. E. Rouchdy Pasha, Minister of Foreign Affairs, also does much to help and instruct mothers in the care of their children. At the dispensary of this society nearly 29,000 visits were attended to during 1910.

The main feature of the work of both these societies is the reception and treatment of mothers and children, and the teaching by example and practice of habits of care and cleanliness.

This is no doubt a first step in the campaign against infantile mortality, but as time goes on, and financial means allow, other steps will naturally follow. There is considerable difference of opinion as to what these steps should be, but it is probable that home visiting of mothers and infants by a trained and tactful staff, together with the provision of suitable milk in special cases, would tend towards the reduction of mortality by securing proper attention to the children in their first days of ailment.

It must, however, be confessed that even if all these measures could be brought into active practical operation they could only be regarded as of a palliative order, dealing with matters of the surface. The real root of the evil lies much deeper, and is closely connected with the ignorance, superstition and lethargy of the people; it is only the cultivation and realization of the opposite characteristics which can, in the end, remove the conditions to which the evil owes its origin.

The whole matter, however, is an excessively complex one, and indissolubly connected with problems not easily solved concerning national and social economics and with the laws that govern the growth and progress of a nation.

For these reasons it is necessary to proceed with more than ordinary care in the elaboration of measures for the reduction of infantile mortality; for the present, therefore, the main efforts of the Government in this connection should be directed to avoiding any serious disturbance of the balance between the birth-rate and the death-rate, and to developing in the people such qualities as shall better fit them to face the more strenuous conditions of life which would inevitably ensue as the population grew more crowded in the land and competition for existence more keen.

Amongst a race where the instinct of emigration and adventure prevailed these views would necessarily require some qualification, but having regard to the characteristics of the Egyptian peasantry, it is probable that they are specially applicable to this country.

TABLE XV.

BIRTHS AND DEATHS AND INFANT MORTALITY IN THE PRINCIPAL TOWNS FOR 1909.

*Egyptians.*

TOWNS.	TOTAL.		INFANT DEATHS.		PROPORTION % OF INFANT MORTALITY.		
	Births.	Deaths.	Under 1 year.	From 1 to 10 years.	Deaths under 1 year.		From 1 to 10 years.
					To births.	To deaths.	To deaths.
Cairo ...	28,540	28,424	10,745	9,414	37·6	37·8	33·1
Alexandria ...	14,421	11,954	4,299	3,641	29·8	36·0	30·5
Damietta ...	1,847	817	291	235	15·8	35·6	28·8
Port Said ...	2,101	1,229	482	367	22·9	39·2	29·9
Suez ...	743	577	191	152	25·7	33·1	26·3
Ismailia ...	344	237	78	86	22·7	32·9	36·3
Benha ...	640	512	181	167	28·3	35·4	32·6
Zagazig ...	1,760	1,282	496	410	28·2	38·7	32·0
Tanta ...	2,874	2,606	871	770	30·3	33·4	29·5
Mansura ...	1,978	1,554	559	491	28·3	36·0	31·6
Shibin el Kom ...	1,094	722	244	198	22·3	33·8	27·4
Damanhur ...	1,993	1,885	601	690	30·2	31·9	40·6
Giza ...	953	1,021	428	413	44·9	41·9	36·5
Fayum ...	2,318	1,802	782	564	33·7	43·4	31·3
Beni Suef ...	1,342	1,020	439	305	32·7	43·0	29·9
Minia ...	1,563	1,441	635	442	40·6	44·1	30·7
Assiut ...	2,236	2,020	738	588	33·0	36·5	29·1
Sohag ...	928	700	269	197	29·0	38·4	28·1
Kena ...	1,142	1,182	437	374	28·3	37·0	31·6
Aswan ...	522	489	176	126	33·7	36·0	25·8
	69,339	61,474	22,942	19,630	33·1	37·3	31·9

TABLE XVI.

BIRTHS AND DEATHS AND INFANT MORTALITY IN THE PRINCIPAL TOWNS FOR 1910.

*Egyptians.*

TOWNS.	TOTAL.		INFANT DEATHS.		PROPORTION % OF INFANT MORTALITY.		
	Births.	Deaths.	Under 1 year.	From 1 to 10 years.	Deaths under 1 year.		From 1 to 10 years.
					To births.	To deaths.	To deaths.
Cairo ...	31,352	24,651	9,143	7,262	29·2	37·1	29·5
Alexandria ...	14,557	11,726	4,052	3,768	27·8	34·6	32·1
Damietta ...	1,687	912	279	318	16·5	30·6	34·9
Port Said ...	2,105	1,444	496	562	23·6	34·3	38·9
Suez ...	764	544	217	118	28·4	39·9	21·7
Ismailia ...	809	462	145	154	17·9	31·4	33·3
Benha ...	666	521	192	172	28·8	36·9	33·0
Zagazig ...	1,759	1,378	451	530	25·6	32·7	38·5
Tanta ...	2,895	2,489	844	659	29·2	33·9	26·5
Mansura ...	1,936	1,451	466	471	24·1	32·1	32·5
Shibin el Kom ...	1,230	584	191	105	15·5	32·7	18·0
Damanhur ...	2,142	1,480	573	419	26·8	38·7	28·3
Giza ...	1,101	728	336	221	30·5	46·2	30·4
Fayum ...	2,383	1,722	769	476	32·3	44·7	27·6
Beni Suef ...	1,502	1,285	532	436	35·4	41·4	33·9
Minia ...	1,756	1,350	605	410	34·5	44·8	30·4
Assiut ...	2,406	1,928	715	673	29·7	37·1	34·9
Sohag ...	945	798	270	277	28·6	33·8	34·7
Kena ...	1,204	889	339	221	28·2	38·1	24·9
Aswan ...	578	437	166	101	28·7	38·0	23·1
	73,777	56,779	20,781	17,353	28·2	36·6	30·6

TABLE XVII.

BIRTHS AND DEATHS AND INFANT MORTALITY IN THE PRINCIPAL TOWNS FOR 1909.

*Foreigners.*

TOWNS.	TOTAL.		INFANT DEATHS.		PROPORTION % OF INFANT MORTALITY.		
	Births.	Deaths.	Under	From 1 to	Deaths under 1 year.	From 1 to	10 years.
			1 year.	10 years.			
Cairo ...	383	962	219	192	...	22·8	20·0
Alexandria ...	758	1,006	200	174	...	19·9	17·3
Damietta ...	2	3	2	...	...	66·7	...
Port Said ...	154	150	25	13	...	16·7	8·7
Suez ...	4	67	6	1	...	9·0	1·5
Ismailia ...	98	39	12	3	...	30·8	7·7
Benha ...	2	2	...	1	...	...	50·0
Zagazig ...	24	15	7	2	...	46·7	13·3
Tanta ...	59	37	7	11	...	18·9	29·7
Mansura ...	12	28	7	4	...	25·0	14·3
Shibin el Kom ...	...	1	...	1	...	...	100·0
Damanhur ...	9	5	2	1	...	40·0	20·0
Giza ...	2	6	4	1	...	66·7	16·7
Fayum ...	2	8	4	1	...	50·0	12·5
Beni Suef ...	4	7	1	2	...	14·3	28·6
Minia ...	5	4	1	1	...	25·0	25·0
Assiut ...	3	2	1	...	...	50·0	...
Sohag ...	1	...	...	...	...	...	...
Kena ...	1	3	2	...	...	66·7	...
Aswan ...	4	9	1	1	...	11·1	11·1
	1,527	2,354	501	409	...	21·3	17·4

TABLE XVIII.

BIRTHS AND DEATHS AND INFANT MORTALITY IN THE PRINCIPAL TOWNS FOR 1910.

*Foreigners.*

TOWNS.	TOTAL.		INFANT DEATHS.		PROPORTION % OF INFANT MORTALITY.		
	Births.	Deaths.	Under	From 1 to	Deaths under 1 year.	From 1 to	10 years.
			1 year.	10 years.			
Cairo ...	303	774	177	123	...	22·9	15·9
Alexandria ...	431	965	186	164	...	19·3	17·0
Damietta ...	6	4	1	1	...	25·0	25·0
Port Said ...	157	205	39	44	...	19·0	21·5
Suez ...	12	47	5	4	...	10·6	8·5
Ismailia ...	95	67	8	19	...	11·9	28·4
Benha ...	3	2	...	...	...	...	...
Zagazig ...	17	13	7	3	...	53·8	23·1
Tanta ...	50	29	5	9	...	17·2	31·0
Mansura ...	27	40	3	13	...	7·5	32·5
Shibin el Kom ...	1	1	...	...	...	...	...
Damanhur ...	10	2	...	...	...	...	...
Giza ...	1	...	...	...	...	...	...
Fayum ...	3	2	...	...	...	...	...
Beni Suef ...	2	1	1	...	...	100·0	...
Minia ...	6	3	...	1	...	...	33·3
Assiut ...	9	3	1	1	...	33·3	33·3
Sohag ...	1	...	...	...	...	...	...
Kena ...	...	1	...	...	...	...	...
Aswan ...	1	12	...	...	...	...	...
	1,135	2,171	433	382	...	19·9	17·6

## B.—INFECTIOUS DISEASES.

The chief items of importance for the year 1910 in this category were :—

- (1) A marked increase in the incidence of plague, chiefly in Upper Egypt ;
- (2) An increase in the incidence of, and mortality from, measles ; and
- (3) A varying diminution in the other infectious diseases cited under the heading.

### (i) PLAGUE.

After a period of comparative quiescence during 1909, plague showed renewed activity and increased virulence during 1910.

The renewed activity was principally shown in the provinces south of Giza, but was also manifested to a less degree in Lower Egypt, as is shown in the following table :—

	1909.		1910.	
	Egyptians.	Foreigners.	Egyptians.	Foreigners.
Lower Egypt ... ... ...	286	15	396	28
Upper Egypt ... ... ...	212	...	807	4

The increase in virulence was shown by the rise in the ‘case mortality’ from 40·5 per cent. in 1909 to 49·6 per cent. in 1910, and by the increase in the number of cases of pneumonic plague.

In 1909 only 9 cases of pneumonic plague occurred, 3 in Lower Egypt and 6 in Upper Egypt.

In 1910 the number of pneumonic cases was 159, of which 1 occurred in Lower Egypt and 158 in Upper Egypt.

The number of deaths which occurred out of hospital during 1909 was 87 ; of these 34 occurred in Lower Egypt and 53 in Upper Egypt.

In 1910 the number of deaths out of hospital was 212 ; of these 62 occurred in Lower Egypt and 150 in Upper Egypt. It is thus clear that the reporting of cases of plague by the local authorities was even more neglected than in the preceding year, nearly twice as many being unreported in Lower Egypt until after death, when it is more difficult, if not impossible, to conceal them, and nearly three times as many in Upper Egypt. There is one elementary fact in hygiene which ought to be thoroughly understood throughout the country and it is this : the earlier the cases of infectious diseases are reported the easier it is to deal with them and the smaller the consequent discomfort and inconvenience to the patients’ friends and neighbours.

There is another fact which can be seen by reference to Table XX ; the case mortality of the 984 patients treated in the plague hospitals during 1910 was 35·7 per cent., as against a general case mortality amongst treated and untreated cases of 49·6 per cent.

If this fact could be inculcated into the minds of the more intelligent natives and by them passed on to the peasant class it should help to overcome, in some degree, the repugnance which most patients’ friends feel to the removal of their sick to the plague hospitals.

The number of separate localities infected during the year was 147 ; this compares with 76 infected localities in 1909, and 142 infected localities in 1908.

The only newly infected locality in 1910 was Ayat, in Giza province ; all the rest of the infected localities had suffered more or less from plague in previous years.

In the report for 1909 it was mentioned that there is little doubt that in certain parts of Lower Egypt plague is assuming an endemic form ; this opinion receives confirmation from the figures of 1910 ; for an analysis of the 427 cases of plague which occurred in Lower Egypt shows that 202 cases of bubonic plague occurred in a triangular area in Menufia and Qaliubia, the base of which corresponds to a line drawn from Benha through Shanawan to the Rosetta branch of the Nile, the sides to the Rosetta branch on the west and the main line Egyptian State Railway on the east, with the apex at the Barrage.

The Inspectors report that the reason why so many cases occur in this area is that notification "is worse here than in any other part of Lower Egypt ; the omdahs do not seem to realize their part of the responsibility..... and the fellahs show a greater dislike to isolation in hospital and disinfection than in other parts of Egypt."

TABLE XIX.

## RECAPITULATION.

Years.	Cases.	Deaths.	Deaths per cent.
1899 ... ... ...	93	45	48·0
1900 ... ... ...	127	60	47·2
1901 ... ... ...	205	102	49·5
1902 ... ... ...	481	291	60·0
1903 ... ... ...	303	160	52·7
1904 ... ... ...	854	501	58·6
1905 ... ... ...	266	181	68·0
1906 ... ... ...	631	475	75·2
1907 ... ... ...	1,253	914	72·9
1908 ... ... ...	1,511	780	51·6
1909 ... ... ...	513	207	40·5
1910 ... ... ...	1,238	615	49·6
TOTALS... ...	7,475	4,331	MEAN 56·1

TABLE XX.

## TOTAL CASES OF PLAGUE, FROM JANUARY 1ST TO DECEMBER 31ST, 1910 (FROM DAILY BULLETINS).

TOWN OR DISTRICT.	GOVERNORATE OR PROVINCE.	REMAIN- ING.		NEW CASES.		DEATHS IN HOSPITAL.		CURED.		REMAINING.		DEATHS OUT OF HOSPITAL.		
		Egyptians.	Foreigners.	Egyptians.	Foreigners.	Egyptians.	Foreigners.	Egyptians.	Foreigners.	Egyptians.	Foreigners.	Total.	Egyptians.	Foreigners.
Alexandria ... ...	Governorate ... ...	20	17	12	7	8	10	...	...	...	...	...	8	...
Port Said ... ...	" ... ...	14	7	2	4	12	3	...	...	...	...	...	6	1
Ismailia ... ...	" ... ...	...	...	1	...	1	...	...	...	...	...	...	...	...
Damieta ... ...	" ... ...	...	...	...	...	...	...	...	...	...	...	...	1	...
Tanta ... ... ...	Gharbia ... ... ...	9	2	3	1	6	1	...	...	...	...	...	8	...
Zifta ... ... ...	" ... ... ...	32	...	11	...	21	...	...	...	...	...	...	9	...
Santa ... ... ...	" ... ... ...	38	...	8	...	30	...	...	...	...	...	...	4	...
Damanhur ... ...	Behera ... ...	4	...	2	...	2	...	...	...	...	...	...	...	...
El Mataria ...	Dakahlia ... ...	1	...	...	...	1	...	...	...	...	...	...	2	...
Kaliub... ...	Kaliubia ... ...	1	...	...	...	1	...	...	...	...	...	...	...	...
Nawa ... ...	" ... ...	1	...	...	...	1	...	...	...	...	...	...	4	...
Tukh ... ...	" ... ...	31	...	4	...	27	...	...	...	...	...	...	3	...
Menuf... ...	Menufia ... ...	16	...	7	...	9	...	...	...	...	...	...	3	...
Ashmum ... ...	" ... ...	71	...	9	...	52	...	10	...	10	...	10	2	...

TOTAL CASES OF PLAGUE, FROM JANUARY 1ST TO DECEMBER 31ST, 1910, ETC. (TABLE XX, *continued*).

TOWN OR DISTRICT.	GOVERNORATE OR PROVINCE.	REMAIN- ING.	NEW CASES.	DEATHS IN HOSPITAL.	CURED.	REMAINING.	DEATHS OUT OF HOSPITAL.	
Egyptians.	Foreigners.	Egyptians.	Foreigners.	Egyptians.	Foreigners.	Egyptians.	Foreigners.	
Kwesna ... ....	Menufia ...	63	7	56	... .	... .	4	
Tala ... ....	" ...	26	1	17	... .	... .	8	
Shibin el Kom ...	Giza ...	1	... .	1	... .	... .	3	
Giza ... ....	Giza ...	6	4	2	... .	... .	... .	
El Ayat ... ....	" ...	2	1	1	... .	... .	... .	
Embaba ... ....	Beni Suef ...	2	... .	2	... .	... .	1	
Beni Suef ... ....	Beni Suef ...	34	2	24	2	... .	4	
El Wasta ... ....	" ...	15	6	8	... .	... .	4	
Beba ... ....	Fayum ...	42	15	27	... .	... .	1	
Fayum ... ....	Etsa ...	15	12	3	... .	... .	1	
Sennures ... ....	" ...	11	5	6	... .	... .	8	
Minia ... ....	Minia ...	28	9	21	... .	... .	5	
Beni Mazar ... ....	" ...	27	11	16	... .	... .	1	
Samallut ... ....	" ...	22	4	18	1	... .	... .	
Abu Kerkas ... ....	" ...	7	1	6	1	... .	... .	
Maghagha ... ....	" ...	2	2	... .	... .	... .	1	
Deirut ... ....	Assiut ...	159	40	120	9	9	30	
Mallawi ... ....	" ...	26	18	8	... .	... .	6	
Assiut ... ....	" ...	7	2	5	... .	... .	1	
Abnub ... ....	" ...	45	18	27	... .	... .	21	
Manfalut ... ....	" ...	48	14	30	4	4	2	
Girga ... ....	Girga ...	... .	... .	... .	... .	... .	1	
Tahta ... ....	" ...	1	... .	1	... .	... .	... .	
Baliana ... ....	" ...	1	... .	1	... .	... .	... .	
Deshna ... ....	Kena ...	97	78	19	... .	... .	19	
Luxor ... ....	" ...	32	30	2	... .	... .	9	
Kena ... ....	" ...	24	21	3	... .	... .	4	
Kus ... ....	" ...	9	9	... .	... .	... .	4	
Aswan ... ....	Aswan ...	3	2	1	... .	... .	1	
	TOTALS ...	16	32	388	14	596	18	25
		993	32	388	14	596	18	25
							212	1

Number of cases, 1,238 ; number of deaths, 615 ; number cured, 614 ; cases under treatment, 25.

TABLE XXI.

COMPARATIVE TABLE OF PLAGUE CASES IN EGYPT DURING THE YEARS 1907, 1908, 1909, 1910,  
AND THE FIRST QUARTER OF 1911.

TOWN OR DISTRICT.	GOVERNORATE OR PROVINCE.	1907.		1908.		1909.		1910.		1ST JANUARY TO 31st MARCH 1911	
		Pneumonic.	Septicemic and Bubonic.	Pneumonic.	Septicemic and Bubonic.						
Alexandria ... ....	Governorate	5	147	4	96	1	22	1	44	... .	2
Port Said ... ....	" ...	... .	19	13	... .	26	... .	28	... .	... .	5
Suez ... ....	" ...	1	2	... .	... .	... .	... .	1	1	... .	... .
Ismailia ... ....	" ...	... .	10	... .	... .	... .	... .	19	... .	... .	42
Damietta ... ....	" ...	... .	1	... .	... .	... .	... .	1	1	... .	... .
Tanta ... ....	Gharbia ...	3	8	33	2	7	7	7	41	... .	2
Kafr el Zayat ... ....	" ...	... .	... .	3	22	1	58	1	42	... .	... .
Zifta ... ....	" ...	... .	... .	1	13	1	1	1	4	... .	... .
Santa ... ....	" ...	... .	1	1	... .	1	33	33	4	... .	... .
Dessuk ... ....	" ...	1	1	1	1	1	1	1	1	... .	... .
Damanhur ... ....	Behera ...	... .	43	... .	1	1	... .	... .	... .	... .	2

COMPARATIVE TABLE OF PLAGUE CASES IN EGYPT, ETC. (TABLE XXI, *continued*).

TOWN OR DISTRICT.	GOVERNORATE OR PROVINCE.	1907		1908		1909		1910		1st JANUARY TO 31st MARCH 1911	
		Pneumonic.	Septicemic and Bubonic.	Pneumonic.	Septicemic and Bubonic.						
Kom Hamada ...	Behera ...	...	...	3	16	...	...	...	...	...	...
Etiay el Barud ...	" ...	...	...	...	1	...	...	...	...	...	1
Shubrakhit ...	" ...	...	...	...	1	...	...	...	...	...	...
Mansura ...	Dakahlia ...	...	...	...	5	...	...	...	...	...	...
Fareskur ...	" ...	...	...	...	2	...	...	...	...	...	...
Mit Gamr ...	" ...	...	...	...	...	...	...	...	...	...	...
Aga ...	" ...	4	31	...	...	...	...	...	...	...	...
Dekernes ...	" ...	...	...	...	...	...	...	...	...	...	...
Simbellawein ...	" ...	...	14	...	...	...	...	...	...	...	...
El Mataria ...	" ...	...	...	...	...	...	...	...	...	3	...
Kaliub ...	Kaliubia ...	...	...	1	...	...	...	...	...	1	1
Tukh ...	" ...	...	...	72	...	...	19	...	...	35	...
Nawa ...	" ...	...	...	...	...	...	...	...	...	1	...
Shibin el Kom ...	Menufia ...	...	...	1	234	...	...	...	...	4	1
Tala ...	" ...	...	...	...	...	...	...	...	...	35	12
Ashmun ...	" ...	...	...	1	26	...	...	...	...	73	1
Kwesna ...	" ...	...	...	3	...	...	...	...	...	67	2
Menuf ...	" ...	...	...	...	...	...	...	...	...	19	4
Embaba ...	Giza ...	...	...	...	...	...	...	...	...	2	...
El Ayat ...	" ...	...	...	...	...	...	...	...	...	6	...
Giza ...	" ...	...	...	...	...	...	...	...	...	1	1
El Saff ...	" ...	...	...	...	...	...	...	...	...	...	1
Beni Suef ...	Beni Suef ...	3	...	50	...	...	...	1	...	16	1
Beba ...	" ...	69	...	57	...	...	...	2	...	38	...
Wasta ...	" ...	...	...	18	...	...	9	...	...	72	...
Fayum ...	Fayum ...	...	23	128	...	...	19	...	...	5	...
Etsa ...	" ...	...	...	31	...	...	9	11	...	19	6
Sennures ...	" ...	...	1	30	...	...	44	...	...	33	15
Minia ...	Minia ...	6	...	22	4	...	14	...	...	28	6
Beni Mazar ...	" ...	6	64	2	15	...	1	...	...	23	28
Samalut ...	" ...	1	45	4	20	...	1	...	...	1	1
Maghagha ...	" ...	...	1	7	27	...	...	1	...	...	...
Fashn ...	" ...	...	3	...	37	...	4	...	...	8	1
Abu Kerkas ...	" ...	...	...	...	8	...	...	...	...	...	2
Assiut ...	Assiut ...	8	34	13	10	...	6	...	...	8	3
Mallawi ...	" ...	7	59	10	13	...	21	...	...	32	48
Deirut ...	" ...	11	93	30	73	...	70	1	...	188	6
Abnub ...	" ...	...	29	...	2	...	...	14	...	52	58
Manfalut ...	" ...	13	2	3	21	...	1	...	...	50	...
Abu Tig ...	" ...	1	5	...	1	...	...	...	...	...	...
Sohag ...	Girga ...	1	...	24	13	...	2	...	...	1	...
Girga ...	" ...	8	17	4	12	...	...	...	...	...	...
Tahta ...	" ...	5	7	...	3	1	2	...	...	1	...
Baliana ...	" ...	40	32	...	...	...	1	...	...	1	...
Akhmim ...	" ...	43	17	...	...	...	...	...	...	...	...
Nag Hamadi ...	Kena ...	49	65	15	57	...	...	...	...	10	9
Kena ...	" ...	39	8	...	3	...	...	10	...	18	23
Deshna ...	" ...	6	51	1	5	...	...	74	...	51	2
Kus ...	" ...	...	22	...	1	...	...	11	...	42	2
Esna ...	" ...	...	93	8	82	...	...	...	...	7	38
Luxor ...	" ...	...	...	7	65	...	...	32	...	9	9
Aswan ...	Aswan ...	1	...	...	1	...	...	1	...	3	299
Edfu ...	" ...	...	...	...	...	...	...	...	...	74	...
TOTALS ...		252	1,001	168	1,343	9	504	159	1,079	70	763

TABLE XXXII.

## RECAPITULATION OF CASES OF, AND DEATHS FROM, PLAGUE IN EGYPT, 1899-1910.



(ii) SMALLPOX AND VACCINATION.

Reference to Table V will show that the number of smallpox cases reported was less than in the preceding year. 34 cases only occurred in Cairo.

914,000 units of vaccine were prepared at the Vaccine Institute of the Department and 404,515 units were issued.

466,990 vaccinations or re-vaccinations were successfully performed and the returns for 754 villages have not yet been received.

38 Tent Hospitals, providing 398 beds, were issued from the Central Stores for dealing with outbreaks throughout the country.

TABLE XXIII.

VACCINATIONS AND RE-VACCINATIONS WITH SUCCESS.

	1908-1909.	1909-1910.
November and December ... ...	82,329	74,865
January 1st to October 31st ... ...	391,274	392,125
TOTAL... ... ...	473,603	466,990

(iii and iv) TYPHUS AND RELAPSING FEVER.

Typhus fever shows a diminution of nearly 1,000 cases in comparison with the previous year.

On the other hand relapsing fever increased, 928 cases being admitted to hospital as against 251 in 1909.

68 Tent Hospitals, providing 1,105 beds, were issued from the Central Stores for the purpose of dealing with outbreaks of these diseases.

(v) MEASLES.

The extension of this disease, which was noted in 1909, was still further marked in 1910. The number of cases notified in the latter year was 7,435, as against 4,258 in the previous year.

The mortality registered from measles was 3,553, but it must not be deduced from these crude figures that the case mortality from measles in Egypt is nearly 50 per cent.

Great numbers of cases were probably not reported, but even making allowance for this fact the case mortality from measles is very high; though it should be, to a great extent, avoidable by simple care on the part of mothers during, and for some days after, the feverish stage of the complaint, if only such precautions could be insured; the realization of which, however, seems almost hopelessly unattainable in the present uneducated condition of the people, more especially of the female sex.

(vi) DIPHTHERIA.

The number of cases of diphtheria registered was 667 with 327 deaths, as against 943 cases with 472 deaths in 1909. The prophylactic use of anti-diphtheritic serum has had satisfactory results in preventing spread amongst the contacts of recognized cases.

(vii) ENTERIC FEVER.

332 cases of enteric fever have been registered with 89 deaths, as against 383 cases with 94 deaths in 1909.

(viii) MALARIA AND MOSQUITOES.

The solution of the mosquito question in Cairo lies in the completion of the Main Drainage Scheme, the filling of all fosses, and the raising of low-lying basements and other areas liable to infiltration water.

Legal provision for the compulsory levelling is needed, for without it, many breeding places for mosquitoes will continue to exist. Meanwhile the usual anti-culex measures are being carried out in the special areas where the inhabitants contribute to the cost.

In the month of October an outbreak of disease, diagnosed by the local authorities as "relapsing fever," broke out in the relegation settlement at Kharga Oasis. At one time there were as many as 176 people afflicted with the malady. An Inspector and Bacteriologists were despatched and they pronounced the disease to be Tropical Malaria. Energetic measures were taken, and by the end of the year it was reported that very few new cases were occurring. Careful control will have to be maintained over the breeding places of mosquitoes in the neighbourhood of the settlement, and it is proposed to appoint a special medical officer trained in modern diagnostic and prophylactic methods.

The following is an interesting extract from Dr. Creswell's report on the prophylaxis of malaria at Suez during 1910. This is a true anti-malarial work and to be very clearly distinguished from the anti-mosquito measures in Cairo and Port Said:—

As previously reported, malaria work is carried out by the small malaria gang of an overseer and three workmen co-operating with the landowners, who, under the Governor, have been formed into an Anti-Malarial Association. The landowners are mostly poor men owning a few feddans only. By arranging for a just contribution of labour between several small landowners assisted by our men, quite a number of useful drains have been cut. By the Governor's tact in overcoming jealousies, neighbours have been persuaded to clean common drains and let water from one man's land run through another man's ditch, and finally incorrigibles have been seen by the Governor and prevailed upon to clean their drains.

All irrigation drains near the town are cleaned by the Public Works Department.

Four large marshes on the outskirts of the town have been drained and are now dry and being filled in gradually.

All drains within six kilometres of Suez have been cleaned to ensure that fish, which destroy the mosquito larvae, can enter freely.

Quinine has been distributed by the Public Health Inspector when cases were found in his bi-weekly inspection.

The total cost per annum is L.E. 107.

*Result.*—The following figures show the malarial state in 1910. In reading these figures, it must be remarked that along the whole canal and indeed the Sinai Peninsula, malaria is an endemic disease with large epidemic fluctuations, and these fluctuations vary greatly. The list below shows that the money granted has been a good investment.

Deaths from malaria registered in Suez for 10 previous years :—

1901 ... ... ... 46	1906 ... ... ... 38
1902 ... ... ... 61	1907 ... ... ... 22
1903 ... ... ... 54	1908 ... ... ... 17
1904 ... ... ... 81	1909 ... ... ... 11
1905 ... ... ... 50 { (Anti-malarial measures began).	1910 ... ... ... 8

#### MALARIA CASES.

##### *Hospital Statistics.*

	In-patients.	Out-patients.
A. Before the measures began :		
1904... ... ... ... ... ... ...	118	405
1905... ... ... ... ... ... ...	91 { (measures began in spring).	260
B. After measures began :		
1909... ... ... ... ... ... ...	65 { (measures extended 6 kilometres).	218
1910... ... ... ... ... ... ...	39	62

The statistics show an increasing and real improvement, but I think they indicate a better condition of things than actually exists.

There was an epidemic in 1908–1909 which is not shown in the death return, but can be traced in the out-patient returns which are as follows :—

1907... ... ... ... ... ... ...	108
1908... ... ... ... ... ... ...	393
1909... ... ... ... ... ... ...	216
1910... ... ... ... ... ... ...	62

The good results are very largely due to the fact that anti-malarial drainage measures are in the direction of cultivators' own interests, and they see nothing but good to their land from the improved drainage. So also the man who has been given facilities to get earth to reclaim a bit of land which he cultivates to his profit is loud in praise of the undertaking.

My general conclusions are :—

- (1) Malaria is still endemic round Suez.
- (2) Even if it were stamped out it would soon break out again owing to the flow of malarial infected people constantly arriving in the town, and from Anopheles from further up the canal reinfesting ditches.
- (3) Owing to the work that is being done, malaria is very greatly diminished, and if our operations are extended will still further decrease.
- (4) Cultivation is increasing and unless the gang is increased to keep pace with increased area, malaria will again increase.
- (5) The work done up to the present has reduced the incidence of the disease and rendered it less fatal.

The cost of petroleum work done in the town of Suez for the destruction of the culex mosquito was :—

	L.E.
Workmen ... ... ... ...	92
Petroleum... ... ... ...	137
Total ... ...	229

### C.—SANITARY DEFENCE.

#### (i) PASSENGER AND IMMIGRANT CONTROL.

During the latter half of 1910 Egypt was very seriously exposed to the invasion of cholera from almost all sides. At the end of July, cholera, having followed a varying course in Russia for the third year in succession, suddenly became widespread and virulent in the countries bordering on the Black Sea. During August the disease broke out in the southern provinces of Italy and later manifested itself in Constantinople, Smyrna, and finally in Tripoli, on the western frontier of Egypt.

The pilgrimage began at the end of October. Cholera was soon recognized at Camaran amongst the Javanese pilgrims arriving from the Far East, and there appears to have been some infection amongst the Bokharan pilgrims arriving from the north.

There was every probability of the pilgrimage becoming an infected one, and on the 27th December the disease was recognized at Mecca.

During those months Egypt was therefore in the position of having to defend itself from cholera from the north, east, west and south.

The admirable organization of the pilgrim camp at Tor created a feeling of confidence that it would act as an efficient cholera filter for the returning pilgrims; great efforts were, however, made, as in former years, by the Medical Officers of this Department to find and observe the pilgrims after their return to Egypt, with the satisfactory result that, according to the returns sent in, every one of the pilgrims notified by Suez to the districts was found.

At the beginning of June the defence of Egypt from cholera from the north, east, and west, lay entirely with the International Quarantine Board. It was recognized on all hands that the limited powers which the Board possesses under the Convention of Paris could be strengthened by a second line of defence, organized with the object of giving early information in the event of a case of cholera developing after a ship had been given free pratique, and after the passengers had departed to their various destinations.

To fulfil this object the Passenger and Immigrant Control Service, which had been organized three years ago and suppressed in 1909, was re-established. The routine was again worked out, the personnel trained, and an arrêté of the Ministry of Interior gave legal sanction to the proceedings as far as local subjects were concerned; the assistance of the Consuls enabled the Department to deal with foreign subjects administratively.

It was recognized, however, that such arrangements should receive legal sanction; amended regulations were therefore produced (with the co-operation of the President of the Quarantine Board, to whom the Department is greatly indebted) and after approval by the Ministry of Justice, were submitted to, and approved by, the Mixed Court of Appeal. These regulations are therefore now applicable to foreign as well as local subjects. On the whole, this service has worked well under great difficulties. Its object is to keep under observation, for a limited period, persons arriving from infected countries while causing them as little inconvenience as possible.

When the public realize that the most important element for success in dealing with infectious disease, and therefore for their safety, is the provision of early information in first cases, the difficulties connected with this service (such as withholding information, false addresses, etc.), will disappear and a considerable step will have been taken for effectively dealing with epidemic diseases.

In the month of November cholera was reported in Tripoli (Barbary). As little was known of the traffic and other conditions on the western frontier, especially from the point of view of sanitary defence, Captain Stanley, one of the Divisional Inspectors, was despatched

on a mission to Siwa for the purpose of studying the question on the spot. His report is published as Departmental Paper No. 1, 1911.

(ii) PILGRIMS AND PILGRIMAGE.

The following are extracts from Dr. Creswell's report on the pilgrimage for the season 1910-1911 :—

RÉSUMÉ OF FIGURES.

DEPARTURE.

*Embarked at Suez :—*

Egyptian pilgrims ...	... ... ...	14,961	5,384
Foreign pilgrims ...	... ... ...	7,259	2,774
Passed through canal ...	... ... ...	15,655	6,779

RETURN.

*Disembarked at Suez :—*

Egyptian pilgrims ...	... ... ...	17,284	7,610
Foreign pilgrims ...	... ... ...	15	6

Of the 14,961 pilgrims who left Suez :

14,571 returned through Tor,

250 are known to have died at the Hedjaz,

33 are known to be staying there a year,

107 are unaccounted for and will, if alive, probably return by twos and threes for the next few months.

Of the 17,284 Egyptian pilgrims who returned to Suez :

2,407 left via Syria,

189 left via Kosseir,

12 left via Suakin,

122 were Egyptians who had been residing in the Hedjaz.

Of the Syrian route pilgrims 500 were with the Mahmal Caravan. 918 had no proper return passports and were so poor that they had to be repatriated at Government expense.

The sick returns are as follows :—

	Tor.	Suez.	At Hedjaz.	Total.
Detained in hospital ...	912	202	...	1,114
Died ...	113	3	250	366

20 Egyptians were in Tor Hospital with cholera of whom 9 died.

*General Features of the Pilgrimage.*

Before the pilgrims began to move, cholera had already broken out in the Black Sea ports, through which passed a large number of foreign pilgrims who landed in Egypt.

Later on cholera was very active in countries east of Arabia and nearly every pilgrim ship arriving at Jeddah had come from an infected port.

The immediate danger to Egypt from the Black Sea pilgrims was recognized, as well as the remoter danger of infection by the Egyptian pilgrims returning from an

infected pilgrimage, and the measures of passenger and pilgrim control that were in force in 1908, when similar conditions prevailed, were revived.

Foreign pilgrims began to arrive in numbers in August, and a steady stream passed through the country till the end of November. The Egyptians did not leave till the beginning of November, and the last ship left on the third of December. For the first time the Syrian route was recognised, and pilgrims were allowed to leave via Beirout, provided they paid a deposit which would cover the return journey by steamer from Jeddah in case they had to be repatriated at Government expense.

The pilgrimage was declared infected by cholera, and the first ship to arrive at Tor had a case of cholera on board. After the pilgrims left Egypt new regulations were issued, which compelled pilgrims to report themselves to the local sanitary authorities should they not return straight from Suez to their homes. The chances of success of getting such a regulation complied with at short notice is small, as it has to soak into the pilgrims' heads, and into those of the touts and small hotel keepers who act as whippers in to the Sanitary Inspectors.

With the experience gained from the first ship, in order to help the Public Health Inspector in finding loiterers, the name and address of each pilgrim was written on his railway ticket so that Inspectors, by enquiring at the railway stations, might find out what pilgrims had arrived in that district. This writing of names and addresses introduced a good deal of delay in entraining the pilgrims after disembarkation, as the arrangements which the Railway made at our suggestion were insufficient to cope with the change of routine.

The result of the inspection of pilgrims was highly satisfactory, and according to the returns sent in every one of the pilgrims, notified to the districts, was found.

Of the outgoing stream of :

7,259 foreign pilgrims who embarked at Suez,  
5,138 were from infected districts,  
4,651 were traced,  
507 were not traced.

Of those not traced whole batches got off without reporting themselves, and the fact only came to our knowledge by searching the registers of embarkation after they left.

The difficulties of finding these people were many ; they spoke unknown tongues, they did not recognise their own names as given on the lists sent by Port Said or Alexandria ; some went to hotels, some camped on the open spaces of the town or at the quay side, some went straight to the steamer from the train, having spent an interval of 2 to 10 days in Cairo or Tanta where they escaped all supervision.

The only measure of any practical use was to meet all trains arriving at Suez ; draft all foreign pilgrims to the Public Health Office, make a fresh list, giving each pilgrim a number, and then make the "simsar" who took charge of them responsible for their reappearance. In this way probably most foreigners from infected parts were kept under observation even though they could not be identified from the lists forwarded from the port of disembarkation. Another year, I hope, means will be found to simplify the identification of such pilgrims while under observation. If a slip is given to each on disembarkation similar to the passport vouchers given to Egyptian pilgrims at Tor, on which is written a serial number as well as the name, surveillance will be much easier.

#### *The Conservancy of the Town, and Pilgrim "Okellas."*

Before the season all "okella" keepers were warned by the Governor to register all houses that they took as pilgrims' lodgings ; after they left, all these were cleaned and

disinfected. Temporary shelters were put up for the use of the poor pilgrims at the south end of the town, but many camped out at the Docks in any nook or shelter that could be found and in spite of a special gang of sweepers, proper conservancy was impossible though the nuisances were minimised.

Another year it will be advisable for the police to be stricter in keeping these camping parties to their allotted places, but it must be acknowledged that the ingenuity of the pilgrims in finding and soiling sheltered nooks is great and the police work is not an easy one.

I have made frequent reference in former reports to "okella" keepers and "simsars" in connection with the pilgrims, sometimes as our natural enemies, and sometimes as our best friends and, in fact, they are in a position to be either; the okella keepers and simsars regard the Public Health and Quarantine Authorities in very much the same light, as one year regulations keep all pilgrims out of the town and they starve, and other years the pilgrims are held up in the town and a prosperous business is done with them.

It is very much to the interest of the Public Health to look after the interests of these two classes where possible. They are very useful to the travelling public as interpreters and advisers to pilgrims, and very useful to us in tracing lost sheep.

It is most desirable that all simsars should be licensed, and should deposit a guarantee for good conduct; this would be a safeguard both to the pilgrims against extortion and to us who rely on them to produce people when wanted for inspection.

It is very advantageous for the town to have sufficient okella accommodation for pilgrims for ordinary years, without overflowing into private houses.

Considering the stringent regulations that exist for the welfare of the pilgrim on board ship, it seems reasonable to have similar ones for the lodging he occupies while waiting at Suez for his steamer. It is also reasonable that a man who has gone to the trouble and expense of making his okellas sanitary in accordance with our wishes, should be protected from the competition of a man who hides his pilgrims in private houses to the danger of the general public, and avoidance of all sanitary control.

Some very suitable regulations were drafted by the Alexandria Municipality, which might well be adopted for Suez, but regulations are of little use unless respect for them is enforced by adequate fines and punishment of the breakers of the law.

#### *Conveyance by Sea.*

The Egyptian pilgrims are carried by the Khedivial Mail Steamship Company under a contract drawn up some 10 years ago and not since revised. The pilgrim has on the whole been well served by them, they have carried many thousands without an accident, they have provided sufficient tonnage, carrying large numbers at short notice, and the pilgrim travels in greater comfort than formerly. The Company have to keep the terms of the contract under considerable difficulty. They cannot tell till the last few weeks what number they will be called on to carry. Every year as the service improves the pilgrim puts off making his intention known till the last minute; and again, when the Company do know the number they have to carry, they never know the time the ships will be engaged on each run, owing to changes in length of quarantine.

The Company carry pilgrims for profit and resent delays which interfere with their gains. On the other hand, when breaches of the regulations have been committed it is much more effective to meet these by fines sufficiently heavy to be deterrent than to accept letters of regret pleading "unforeseen circumstances."

As regards administration, Dr. Creswell is of opinion that some amendment of the existing machinery for the control of steamship accommodation and for the granting of certificates of exemption is required, and he makes several practical suggestions amongst which the following is specially worthy of note. He proposes that the present Commission be abolished and its place taken by one consisting of:—

Medical and nautical Government delegates, preferably the Government Medical Officer of Suez and the Captain of the Port, and that these two proceed to examine the ship, and verify the measurements of all spaces made in their presence by the Company's representatives.

The Company should be required to present a plan of the ship to be attached to the certificate, showing the pilgrims' spaces, water tanks, pipe distribution, latrines, etc.

The certificate should set out in detail the result of the examination as on the example attached, *e.g.*, as follows:—

STEAM SHIP.....	Water.—Total tank capacity..... litres
Certificate issued in accordance with terms of contract for the conveyance of pilgrims.	Distributed as follows : Fore peak 20-ton ballast tank, No. 2, 'Tween deck, three 6-ton tanks, etc., etc. Each tank with properly fitted manhole, supply pipe, air pipe, and suction pipe distribution. (Describe pumps with their number and situation).
<i>Measurements.</i>	A condenser capable of condensing ..... litres an hour is carried.
(1) Covered in space : No. 1, 'TWEEN DECK: Gross measurements..... square feet.	<i>Latrines.</i> —..... Reserved for 1st class passengers. ..... Reserved for crew. ..... for use of pilgrims.
<i>Deductions.</i> E.G. (1) open hatches 10 square feet. (2) Loekers ..... square feet. (3) Each deduction to be specified.	<i>Type.</i> —(Describe type of latrines carried).
Net space ..... square feet. Accommodation for ... pilgrims.	<i>Hospital.</i> —Male..... beds with bedding. Female..... " " " Equipped with locked medicine cupboard, feeding cups, bed pans, soaking tubs and disinfecting sacks and special latrines.
No. 2, 'TWEEN DECK (specifications etc. as No. 1, 'Tween Deck). Other covered in spaces : Alley-way Port ..... square feet Starboard, (Deductions if any). 2nd class berths ..... in ..... cabins.	<i>Pharmacy.</i> —In special cabin with proper receptacles for drugs.
(2) Open Deck Space: Fore deck, Gross measurements, Deductions, Net measurements,	<i>Disinfecting store</i> is in working order.
Bridge Deck, (etc., etc.) Total deck space ..... square feet Total pilgrims allowed .....	<i>Spare provisions</i> to be carried ..... tons of ship's biscuits
1st class passengers .....	<i>Life-belts</i> .....
Crew.....	<i>Boat capacity</i> ..... (Specify boats and capacity of each boat).
Grand total.....	

It is most important that the certificate should contain every detail required of the ship by the regulations, such as latrines, hospital accommodation, water supply, as well as details of space allotted to pilgrims, as it is impossible for anyone to remember all spaces allotted and what encroachments are allowed for, and in case of dispute there is nothing to which to refer to settle the point; also water tanks and all pipes distributing water should be shown.

The following remarks formulate the result of the inspection of the ships together with the alterations I think desirable for each section.

*General Inspection of Space Allotted to Pilgrims.*

1. *Ventilation.*—This is, as a rule, sufficient in the old smaller ships, but in some of the more recent ships, in which ordinary ship holds are converted into pilgrim decks, it is not as good as it might be ; a clause is required in the regulations making it obligatory for each pilgrim deck to have two down-draught ventilators. The up-draught is usually sufficiently provided for by the hatches. The number and position of ventilators should be set out in detail on the certificate.

For the purpose of increasing the capacity of the ships the practice has arisen of making the term “covered in space” elastic.

For instance, one method is to board over a portion of the deck or hatch, leaving the seams uncaulked and exposing pilgrims below to the pollutions of persons living above.

These temporary covered in spaces have sometimes no shelter from the sides and no protection from weather.

In the regulations “covered in space” should be defined as “space with caulked roof and deck, sides capable of being covered in to give protection from the weather.”

2. *Water.*—Every tank throughout the fleet was opened and inspected, its water connection followed out and where faulty, rectified ; this, in an odd collection of ships, was no easy matter.

The career of many of the ships has been chequered, some having served as cargo, cattle, or emigrant ships in turn ; for each of its many occupations the water distribution required has been altered, and as it was seldom necessary to remove old pipes the connections of some of the water tanks were in hopeless confusion.

Where several tanks were joined together there would be perhaps one air pipe, the other tanks regulating the air pressure through faulty inspection-hole lids.

With the tendency to employ larger ships carrying up to 1,500 pilgrims, and the importance of protecting the water supply, I think that in any new ship that comes up for a certificate, water should be distributed to the pilgrims from a central tank on deck, filled as required from the reserve tanks in the holds ; by this means the amount of water used can be controlled, and as it is under pressure a back rush of soiled water cannot take place into the tanks, as may happen with faulty pumps. The position of each tank and the water connections of each tank should be shown on a plan, and indicated in the certificate supplied to each ship. All water condensers were tested and found in good order.

3. *Latrines.*—The type adopted is rigged over the ship’s side and is in effect a large box with a hole in the floor; everything drops straight into the sea. This type acted well in the small ships which formed the bulk of the fleet when the regulations were first issued. Now, however, with ships with higher free board and two rows of ports this type is no longer desirable.

The Company should be instructed to provide a shoot to each latrine to a level below the lowest line of ports.

4. *Hospitals.*—The hospitals were well equipped.

Here again the regulations are faulty. The space allotted is too small and this drawback must be due to an error in drafting which escaped detection at the time. The Company, however, have not objected to allotting an increase of space provided the total number of pilgrims they were allowed to carry was not diminished. 24 feet

should be allowed to each bed and the hospital divided, two-thirds for the men and one-third for women and children.

Details of the hospital should be set out on the ship's certificate.

5. *Pharmacies*.—A special cabin in a convenient place should be required by regulation, not as obtains in some ships where the pharmacy consists of a cupboard for drugs in the doctor's cabin.

The number of drugs requisitioned by the ship's doctors is sometimes a cause of complaint by the Company; I have several times tried to establish a list of drugs necessary, but I have failed because the Company employs doctors of all nationalities, and no one pharmacopœa is familiar to them all; so I have been content to allow each doctor to choose the drugs he is familiar with, while satisfying myself with seeing that there is a sufficiency and the redundancies in each list submitted are removed. I may add that the medicines they actually carry are nothing to what is required by some Governments.

6. *Extra Provision in the Case of Accident*.—The regulations provide for a certain reserve of food to be carried by the pilgrim ships to meet accidents or delays, and I have fixed 5 kilos. of ship's biscuits per pilgrim as the amount. They form a considerable bulk for each ship to carry and have not been found to keep very well. At first they were stored in the lower hold where they soon went mouldy and where they would have been at once spoiled in case of shipwreck; so I had them brought on to a pilgrim deck where they are handier in case of necessity, but still they frequently have to be condemned as mouldy. The biscuits supplied by the Company should be renewed each season. On account of the liability of biscuits to go mouldy and to be contaminated by rats, and also on account of their bulk a more concentrated food would be preferable, but the difficulty is to find one that would be accepted by Moslem pilgrims.

7. *Overcrowding*.—From Table XXIV it will be seen that some ships carried over more pilgrims than their proper number. Most of these cases arise from the agents booking up to the last place, and stray units being allowed to leave with their own parties. The real difficulty arises from the clause in the regulations which allows the Company to carry 25 per cent. over their number in unforeseen circumstances, 'after having obtained the consent of the Minister, and with a fine of L.E. 5 if this special number is exceeded.

In practice it has worked out that during every infected pilgrimage, just when the regulations should be most strictly adhered to, this permission has been asked for and obtained. The fine imposed can hardly be deterrent considering each extra pilgrim pays L.E. 3 to the Company.

In view of the larger and quicker steamers which the line employ the voyage to Jeddah from Suez is now rarely longer than three days instead of the former five. I would suggest that a greater number be carried (say, one pilgrim to each 10 square feet, not 12 as at present), make no exception for children, leave 2 per cent. of bookings vacant, till the steamer is embarking her pilgrims and inflict a fine of L.E. 3 for each person over the proper number.

The clause providing for "unforeseen circumstances" had best be left out, as it induces the Company to ask for special facilities.

#### *Ferry-Boat between Suez and Tor.*

Since the regulations were drawn up a system has been introduced by which one ship brings pilgrims from the Hedjaz to Tor, lands them there, and returns for a fresh load.; another steamer carries the pilgrims from Tor to Suez.

This is not unprofitable to the Company and is also desirable from a health point of view, as it establishes a complete break at Tor and neither pilgrims, crew, or goods, can land in Egypt without passing through Tor. The matter should, however, be regularised. The Company have rather acted on the principle of sending the Jeddah-Tor ship away for a second load, and trusting to luck for means of getting the pilgrims from Tor to Suez.

Before permission is given to run the ferry system, they should have the ships ready for the purpose.

#### *Supervision of Regulations when the Ship leaves Suez.*

This has always been a weak point in the regulations; a ship leaves port in accordance with the regulations, but when once at sea, there is nothing to prevent irregularities, such as the occupation of the hospital beds by unauthorized persons, or pulling up the windsails, or reserving parts of the pilgrims' promenade deck for first class passengers.

I have heard reports of such things being done, but have never been able to obtain entire confirmation. This year I asked Mr. Olphert, Inspector of the Ministry of Interior, while at Tor, to take special note of the condition of pilgrim ships on arrival there. His report in a certain case puts beyond doubt that such practices do take place.

To meet the difficulty of want of Government control at sea, I suggest that it be laid down in the regulations that each pilgrim ship should have a cabin retained for a Government delegate.

There is in nearly every pilgrim ship a Government servant of sufficient standing making the pilgrimage, who could be delegated to act as the Government representative in return for the privilege of a free passage in a good cabin; while it would be very convenient during the return pilgrimage, if one of the officials at Tor could go the short round trip and report on the embarkation and condition of Egyptians at Yambo and Jeddah.

#### *Carrying of Mixed Batches of Pilgrims.*

Mr. Olphert reported that a ship carried a number of Egyptian and foreign pilgrims between Jeddah and Yambo, where the foreign pilgrims were disembarked, and the ship came on to Tor with the Egyptians among whom cholera was detected.

It would be a wise precaution to forbid the embarkation of foreign pilgrims between intermediate ports on the return from the Hedjaz.

#### *The Disembarkation and Entraining at Suez.*

The disembarkation went off easily and worked well. There was more care taken in keeping separate on the ships those who had been treated in Tor Hospital, consequently, many went straight to their villages who in other years were detained in hospital for a fresh diagnosis to be made.

Special attention was paid to anyone who had the appearance of suffering from diarrhoea, and these were kept in the waiting room for an interval till time proved their innocence, or otherwise; all those suffering from diarrhoea were at once sent to hospital.

When the pilgrims were all out of the ship, the decks were swept by the Company's workmen, and then a disinfecting party washed them down with sublimate.

The entraining of the pilgrims was a long wearing process, but it can be considerably quickened and simplified next year if two extra barriers are erected in the enclosure ; the cost of these is estimated by the local engineer at L.E. 60 and the railway should be asked to put up extra ticket offices and a luggage office. Another railway improvement would be a morning special as well as the night special ; many pilgrims sleep in Suez, as if they go by the night special they have to pass long hours at country stations waiting for their local trains. The railway authorities did not like a large number going by the morning ordinary train and tried to get them off by the night special, and these broke their journey at intermediate stations. I think if a morning pilgrim train was run the number of changes of address would be very much diminished, because many would go straight to their villages after one night in Suez ; in Suez we have the staff to look after them, whereas those breaking their journey at intermediate places cannot be watched.

The system of writing the pilgrims' names on the special pilgrim ticket should, when it gets known to the Public Health Inspectors of the districts, be of the greatest use to them in tracing the loitering pilgrims and is well worth persevering with. The railway staff were very good in the trying circumstances, but a larger number of more experienced booking clerks with a larger supply of printed tickets and with a larger supply of change will greatly quicken the entraining.

#### *The Hospital Arrangements.*

This year a skilled bacteriologist was sent down to examine all cases of diarrhoea admitted, thus saving the sending of numbers of specimens to Cairo. Dr. White, when not engaged in the laboratory, gave me great assistance in the general work of control of pilgrims, besides it is a great advantage to have the bacteriologist at one's elbow to refer to in deciding whether a case is suspicious or not.

The sick, unless infectious, were only kept in the hospital till they were diagnosed and then were allowed to go to their homes if their condition allowed of their travelling.

There are a certain number admitted every year who are quite incurable and whose only wish is to get back to their homes to die, but if they were allowed to go alone they would certainly die on the way, or suffer greatly in transit. This year these cases were sent to their homes in charge of a "tamurgy" who reported their arrival to the Public Health Inspector of the district.

The system has worked well and will be continued another year. The sick were almost exclusively suffering from diarrhoea and dysentery, but no case of clinical or bacteriological cholera was detected.

#### *Result of Inspection of Pilgrims.*

The majority of the lists were returned much more promptly this year than last, but still quite a number were slow in returning the lists, mostly I think from a wish to wait till the last loiterer had turned up.

Another year it will be better if all lists are returned on the seventh day from their receipt and a list kept of those not yet found ; this late list should be sent in twenty days later showing on it the date on which each pilgrim returned home.

No doubt all were found, but the important thing is to find them all in the first week after arrival.

TABLE XXIV.

STATISTICS OF THE EGYPTIAN AND FOREIGN PILGRIMS WHO LEFT FOR THE HEDJAZ,  
(SEASON 1910-1911).

Date of Departure 1910.	NAME OF SHIP.	PILGRIMS.		Total.	REMARKS.	
		Egyptian.	Foreign.		Certified Num- ber allowed.	Excess per cent.
August 22	Rahmanieh	... ... ...	...	480	480	667
„ 29	Missir	... ... ...	...	252	252	532
September 5	Rahmanieh	... ... ...	...	147	147	667
„ 12	Mansourah	... ... ...	2	21	23	720
„ 14	Ekatrinaslow	... ... ...	...	5	5	...
„ 19	Neghileh	... ... ...	1	7	8	519
„ 26	Missir	... ... ...	...	14	14	532
October 3	Neghileh	... ... ...	2	8	10	519
„ 10	Mansourah	... ... ...	61	75	136	720
„ 17	Rahmanieh	... ... ...	167	113	280	667
„ 18	Voronej	... ... ...	...	73	73	...
„ 24	Neghileh	... ... ...	324	122	446	519
„ 28	Missir	... ... ...	260	101	361	532
November 1	Calioubieh	... ... ...	...	20	20	200
„ 4	Menzaleh	... ... ...	462	379	841	827 + 0·6
„ 7	Missir	... ... ...	357	172	529	532
„ 8	Mansourah	... ... ...	597	129	726	720 under 1
„ 10	Tantah	... ... ...	848	165	1,013	1,007 „ 1
„ 12	Minieh	... ... ...	1,115	340	1,455	1,447 „ 1
„ 13	Tewfikieh	... ... ...	...	284	284	...
„ 14	Assouan	... ... ...	1,234	186	1,420	1,407 „ 1
„ 15	Menzaleh	... ... ...	817	36	853	827 3
„ 17	Mansourah	... ... ...	685	57	742	720 3
„ 17	Calioubieh	... ... ...	...	122	122	200
„ 18	Tantah	... ... ...	977	48	1,025	1,007 1 ½
„ 19	Minieh	... ... ...	1,125	316	1,441	1,447
„ 20	Keneh	... ... ...	...	118	118	838
„ 21	Rahmanieh	... ... ...	637	66	703	667 8
„ 22	Menzaleh	... ... ...	901	...	901	827 9
„ 22	Neghileh	... ... ...	487	27	514	519 „ 1
„ 23	Assouan	... ... ...	1,495	...	1,495	1,407 6
„ 23	Prince Abbas	... ... ...	...	536	536	...
„ 24	Tewfikieh	... ... ...	...	404	404	...
„ 25	Mansourah	... ... ...	753	...	753	720 + 4
„ 25	Naderi	... ... ...	...	684	684	...
„ 26	Tantah	... ... ...	1,051	...	1,051	1,007 + 4
„ 28	Minieh	... ... ...	558	851	1,409	1,447
„ 30	Stratoff	... ... ...	...	418	418	...
December 3	Keneh	... ... ...	45	353	398	838
„ 5	Missir	... ... ...	...	26	26	...
„ 5	Tewfikieh	... ... ...	...	104	104	...
	TOTAL	... ...	14,961	7,259	22,220	...

N.B.—Included amongst the Egyptian pilgrims, 415 children.

„ „ „ Foreign „ 200 „

TABLE XXV.

## RETURN OF EGYPTIAN PILGRIMS (SEASON 1910-1911).

Date of arrival.	Name of ship.	PILGRIMS.		Total.	Cause of Death.	Remarks.		
		Egyptian.	Foreign.					
January 4	Assouan ...	...	...	1,393	2	1,396	...	Traced (Mahmal)
" 5	Rahmanieh ...	...	...	532	3	535	...	"
" 5	Menzaleh ...	...	...	912	...	912	2	"
" 10	Assouan ...	...	...	1,054	...	1,056	5	"
" 12	Tewfikieh ...	...	...	342	...	345	1	"
" 22	Rahmanieh ...	...	...	222	...	243	4	"
February 4	El Kahira and Missir ...	...	...	1,005	1	1,006	9	"
" 5	Abbassieh ...	...	...	1,411	3	1,414	5	"
" 6	Rahmanieh ...	...	...	880	7	887	2	"
" 7	Abbassieh ...	...	...	1,022	10	1,032	6	"
" 8	Rahmanieh ...	...	...	715	21	736	1	"
" 10	Abbassieh ...	...	...	1,429	4	1,433	15	"
" 11	Prince Abbas and Rahmaniéh ...	...	...	1,455	30	1,485	12	"
" 12	Tantah ...	...	...	1,037	...	1,037	29	"
" 15	Dakahlieh ...	...	...	987	63	1,050	12	"
" 16	Menzaleh ...	...	...	891	13	920	30	"
" 23	Mansourah ...	...	...	559	133	692	9	"
" 24	On foot ...	...	...	3	3	...	...	"
" 25	Assouan and Minieh ...	...	...	1,410	81	1,491	48	"
March 9	Dakahlieh ...	...	...	28	131	159	2	"
				17,287	15	530	17,832	3
								912 202

N.B.—Including the total of the Egyptian pilgrims, 2,407 left for the Hedjaz via Syria, 189 via Kosseir, 12 via Suakin and 122 were already residing there.

TABLE XXVI.

## STATISTICS OF FOREIGN PILGRIMS WHO LEFT FOR THE HEDJAZ BY THE CANAL.

Date of departure 1910.	Name of ship.	Number of Pilgrims.	Remarks.
September 14	Ekatrinaslow ... ... ... ... ...	54	Russian ship.
October 22	Albono ... ... ... ... ...	90	German "
" 29	Minieh ... ... ... ... ...	1,102	K. M. L. "
November 1	Assouan ... ... ... ... ...	1,110	" "
" 3	Tewfikieh ... ... ... ... ...	195	Ottoman "
" 4	Costroma ... ... ... ... ...	540	Russian "
" 4	Hayston ... ... ... ... ...	727	English "
" 12	Horien ... ... ... ... ...	609	Ottoman "
" 13	Rahmanieh ... ... ... ... ...	454	K. M. L. "
" 17	Spranza ... ... ... ... ...	520	Italian "
" 18	Garoslaw ... ... ... ... ...	1,291	Russian "
" 20	Keneh ... ... ... ... ...	577	K. M. L. "
" 22	Kherson ... ... ... ... ...	1,722	Russian "
" 23	Shawkat Pacha ... ... ... ...	524	Ottoman "
" 25	Theo ... ... ... ... ...	1,527	Russian "
" 26	Odessa ... ... ... ... ...	1,259	" "
" 27	Vlaba ... ... ... ... ...	1,005	" "
" 29	Konea ... ... ... ... ...	580	Ottoman "
" 30	Saraloff ... ... ... ... ...	938	Russian "
December 1	Yazar ... ... ... ... ...	831	" "
	<b>TOTAL ... ... ...</b>	<b>15,655</b>	

TABLE XXVII.

## RETURN OF FOREIGN PILGRIMS GOING THROUGH THE CANAL.

Date of arrival 1911.	Name of ship.	Number of Pilgrims.	Remarks.
January 3	Euphrate ... ... ... ... ...	993	Russian ship.
" 5	Cizar ... ... ... ... ...	846	" "
" 7	Siraloff ... ... ... ... ...	1,061	" "
" 11	Bilada ... ... ... ... ...	797	" "
" 13	Shawkat Pacha... ... ... ...	599	Ottoman "
" 16	Kherson ... ... ... ... ...	1,767	Russian "
" 16	Keneh ... ... ... ... ...	735	K. M. L. "
March 3	Tewfikieh ... ... ... ... ...	331	Ottoman "
" 4	Shawkat Pacha... ... ... ...	879	" "
	<b>TOTAL ... ... ...</b>	<b>8,004</b>	

TABLE XXVIII.

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STATISTICS OF THE EGYPTIAN AND FOREIGN PILGRIMS WHO EMBARKED  
FROM SUEZ PORT FOR THE HEDJAZ, 1910.

TABLE

## STATISTICS OF THE EGYPTIAN AND FOREIGN PILGRIMS

FOREIGN PILGRIMS PASSED THE CANAL.		DATE OF DEPARTURE.	NAME AND NATIONALITY OF SHIPS.	UPPER EGYPT.								
SHIPS.	Number of Pilgrims.			Aswan.	Kena.	Assiut.	Girga.	Minia.	Fayum.	Beni Suef.	Giza.	
1910.												
Catherina Slavo (Russian) ... ... ...	54	22 August.	Rahmanieh (Khedivial Mail Line) ...	...	...	...	...	...	...	...		
Albone (German) ... ... ...	90	29 "	Missir (Khedivial Mail Line) ...	...	...	...	...	...	...	...		
Minieh (Khedivial Mail Line) ... ...	1,102	5 Sept.	Rahmanieh Khedivial Mail Line) ...	...	...	...	...	...	...	...		
Assouan " " " ...	1,110	12 "	Mansourah (Khedivial Mail Line) ...	...	...	...	...	...	...	...		
Tewfikieh (Ottoman) ... ...	195	14 "	Catherina Slav (Russian) ... ...	...	...	...	...	...	...	...		
Kostromo (Russian) ... ... ...	540	19 "	Negilah (Khedivial Mail Line)	...	...	...	...	...	...	...		
Heston (British) ... ... ...	727	26 "	Missir (Khedivial Mail Line) ...	...	...	...	...	...	...	...		
Storreiat (Ottoman) ... ... ...	609	3 October.	Negilah (Khedivial Mail Line) ...	...	...	...	...	...	...	...		
Rahmanieh (Khedivial Mail Line) ...	454	10 "	Mansourah (Khedivial Mail Line) ...	...	...	...	16	...	...	...		
Sparatera (Italian) ... ... ...	520	17 "	Rahmanieh (Khedivial Mail Line) ...	...	...	20	3	...	...	...		
Zaroslaw (Russian) ... ... ...	1,291	18 "	Woronieg (Russian) ... ...	...	...	...	...	...	...	...		
Keneh (Khedivial Mail Line) ...	577	24 "	Negilah (Khedivial Mail Line) ...	...	...	2	2	2	...	60		
Kherson (Russian) ... ... ...	1,722	28 "	Missir (Khedivial Mail Line) ...	...	12	...	...	7	...	28		
Chaukat Pacha (Ottoman) ... ...	524	1 Nov.	Calioubieh (Khedivial Mail Line) ...	...	...	...	...	...	...	...		
Okhio (Russian) ... ... ...	1,527	4 "	Manzalah (Khedivial Mail Line) ...	...	2	...	...	7	...	...		
Odessa (Russian) ... ... ...	1,259	7 "	Missir (Khedivial Mail Line) ...	...	...	1	...	...	4	24		
Vlapa (Russian) ... ... ...	1,005	8 "	Mansourah (Khedivial Mail Line) ...	...	...	20	9	9	28	...		
Konia (Ottoman) ... ... ...	580	10 "	Tantah (Khedivial Mail Line) ...	...	...	19	...	3	26	19		
Saratoff (Russian) ... ... ...	938	12 "	Minieh (Khedivial Mail Line) ...	...	...	14	...	56	37	39		
Sizar (Russian) ... ... ...	431	13 "	Tewfikieh (Ottoman) ... ...	...	...	...	...	...	...	25		
		14 "	Assouan (Khedivial Mail Line) ...	...	7	40	11	65	84	43		
		15 "	Manzaleh (Khedivial Mail Line) ...	...	5	87	4	136	99	89		
		17 "	Mansourah (Khedivial Mail Line) ...	...	...	85	...	100	25	116		
		18 "	Calioubieh (Khedivial Mail Line) ...	...	...	...	...	...	...	99		
		19 "	Tantah (Khedivial Mail Line) ...	9	28	49	40	57	7	93		
		20 "	Minieh (Khedivial Mail Line) ...	...	1	83	42	63	63	43		
		21 "	Keneh (Khedivial Mail Line) ...	...	...	...	...	...	...	...		
		22 "	Rahmanieh (Khedivial Mail Line) ...	...	...	48	34	45	20	22		
		22 "	Manzaleh (Khedivial Mail Line) ...	12	...	108	18	139	40	41		
		23 "	Negilah (Khedivial Mail Line) ...	19	...	1	1	7	...	1		
		23 "	Assouan (Khedivial Mail Line) ...	27	27	49	...	127	20	154		
		24 "	Prince Abbas (Khedivial Mail Line) ...	...	...	...	...	...	...	...		
		25 "	Tewfikieh (Ottoman) ... ...	...	...	...	...	...	...	...		
		25 "	Mansourah (Khedivial Mail Line) ...	4	1	79	14	105	47	100		
		26 "	Nadrei (British) ... ... ...	...	...	...	...	...	...	...		
		29 "	Tantah (Khedivial Mail Line) ...	16	25	26	4	84	16	44		
		30 "	Minieh (Khedivial Mail Line) ...	3	3	10	3	43	7	9		
		3 Dec.	Saratoff (Russian) ... ... ...	...	...	...	...	...	...	...		
		5 "	Keneh (Khedivial Mail Line) ...	...	...	...	...	1	...	...		
		5 "	Missir (Khedivial Mail Line) ...	...	...	...	...	...	...	...		
			Tewfikieh (Ottoman) ... ...	...	...	...	...	...	...	...		
TOTAL ... ...	15,255			TOTAL ... ...	90	111	719	218	1,043	535	823	1,079

N.B.—The total of the Egyptian pilgrims included 415 children.

The total of the Foreign pilgrims embarked from Suez Port included 200 children.

## XXVIII.

WHO EMBARKED FROM SUEZ PORT FOR THE HEDJAZ, 1910.

EGYPTIAN PILGRIMS.												FOREIGN PILGRIMS.											
LOWER EGYPT.						GOVERNORATES.						FOREIGN PILGRIMS.											
Kalioubia.	Behera.	Sharkia.	Menoufia.	Dakahlia.	Gharbia.	Suez.	Ismilia.	Damietta.	Port Said.	Alexandria.	Cairo.	Dutch.	French.	Russian.	British.	Persian.	Ottoman.	TOTAL OF EGYPTIANS.	TOTAL OF FOREIGNERS.	TOTAL OF EGYPTIAN AND FOREIGN PILGRIMS.			
35	1					2	4	1															
75	7	1		24		1																	
109	15	57	22			2	4																
60	33	8	6	.60		29																	
2	108	29	49	17	135	2	1	4	37	42													
67	11	45	32	143		21	9	9															
8	68	17	73	77	153	2	1	13	36	49													
15	35	59	205	174	148	3																	
99	38	88	156	104	366	2																	
...	...	...	...	...	...	...	...	...	...	...	...												
45	69	89	109	232	334	16	1	5	27														
26	67	8	60	64	77			3	17	10													
9	13	33	48	98	103																		
...	...	...	...	...	...																		
79	21	48	173	136	69		25	9	9	26													
64	15	86	150	232	180																		
...	...	...	...	...	...																		
102	35	75	69	113	50																		
44	3	110	20	101	103																		
66	...	140	81	60	55																		
46	63	175	90	212	161	7	22	1	9	38													
...	...	...	...	...	...																		
41	19	151	18	47	56																		
...	...	...	...	...	...																		
15	57	189	53	184	257	3	1	1	15	39													
12	16	115	12	96	111	2		4	3	6	45	5											
1	6	...	9	3	4		1			19		18											
...	...	...	...	...	...																		
674	980	1,487	1,480	1,985	2,618	20	4	76	57	353	583	67	28	39	407	130	366	6,950	14,861	7,244	22,220		

**D.—GENERAL SANITARY MEASURES.****(i) BIRKAS.**

The level of the filled up ground in the Manfalout birkas was raised so as to bring it to the level of the public road at a cost of L.E. 529.

The insanitary misqas amongst the houses in the villages of Khamsa and Sadaqa, in the province of Daqahlia, were diverted at a cost of about L.E. 60.

The Government Lands Department filled up 255 birkas in 1910, as against 92 birkas in 1909. It is hoped that next year a more detailed report may be issued on this most important and useful work.

**(ii) SANITATION OF MOSQUES.**

The new law relating to latrines accessible to the public is still before the Legislative Council, but it is believed that it is making satisfactory progress and will be in force during 1911 or early in 1912.

The importance of sanitary latrines accessible to the public can hardly be overestimated, and their provision in sufficient numbers is the only practical method at present available for preventing the spread of certain parasitic diseases, especially ankylostoma, which cause an incalculable amount of illness and disability amongst the people of this country.

The number of plans of sanitary arrangements submitted and finally approved in 1910 was :—

Private Mosques ...	Old Mosques repaired and reopened ... ...	15
	New Mosques opened ... ... ...	15
Wakfs' Mosques ...	Repaired and reopened ... ... ...	14
	Total... ...	<u><u>44</u></u>

**(iii) CEMETERIES.**

TABLE XXIX.

	New Cemeteries Created.	Cemeteries Enlarged.	Roads Established for use of Cemeteries.	Old * Cemeteries Authorized.	Portions of Old Cemeteries Suppressed.	Old Cemeteries Condemned.	Private Tombs Authorized.
Mudiria of Girga ...	3	...	...	...	...	...	1
" " Menufia...	1	...	...	2	...	10	1
" " Sharkia...	...	...	...	1	1	2	1
" " Behera ...	2	1	...	1	...	2	1
" " Dakahlia	1	...	...	8	1	5	1
" " Assiut ...	1	...	...	1	3	4	1
" " Kaliubia	1	1	...	10	...	...	...
" " Gharbia	2	3	...	8	...	...	...
" " Fayum ...	...	...	1	1	2	2	...
" " Minia ...	...	...	...	...	...	2	...
District of Old Cairo	1	...	...	...	...	...	...
TOTAL... ...	12	5	1	32	7	27	6

In addition to the above the boundaries of 116 cemeteries have been fixed during the year.

**(iv) UNHEALTHY ESTABLISHMENTS.**

The small working committee alluded to in last year's report has devoted much time to the consideration of this important subject. It is understood that considerable progress has been made, and it is hoped that the report may be forthcoming in the current year (1911).

\* This refers to old cemeteries which have been in use for varying long periods of time but had not hitherto been registered and put in order in accordance with the law.

(v) FAIRS AND MARKETS.

There is little to add to what was said in last year's report. Both the Great and Small Fairs were held at Tanta and Dessuk. The number of persons attending showed no diminution; the same measures were provided and no incident of special importance arose.

(vi) LEGAL PROCESSES.

The following table (XXX) gives details of the various legal processes instituted by the Department during the year.

## TABLE XXX.

## E.—MUNICIPALITIES AND LOCAL COMMISSIONS.

Belbeis, a town of 14,000 inhabitants in Sharkia, was for the first time endowed with a Local Commission.

No change took place in the Municipalities.

The following tables give some interesting figures with reference to the credits devoted to services either of direct or indirect sanitary value :—

TABLE XXXI.

## MUNICIPALITIES.

Municipality.	Water.	Vidange.	Roads and Road Maintenance.	Sanitary Works.	Total Expenditure.
	L.E.	L.E.	L.E.	L.E.	L.E.
Mansura ... ... ... ...	7,250	775	4,000	600	23,305
Zagazig ... ... ... ...	1,932	—	4,261	449	13,969
Tanta ... ... ... ...	850	—	6,998	381	16,483
Damanhur ... ... ... ...	3,199	—	3,597	270	12,938
Beni Suef ... ... ... ...	448	—	2,467	248	6,800
Medinet el Fayum ... ...	311	—	2,945	278	7,414

TABLE XXXII.

## LOCAL COMMISSIONS.

*Budget of Ordinary Expenditure in 1910.*

Local Commission.	Chapt. I. Water.	Chapt. II. Light.	Chapt. III. Roads.	Chapt. IV. Sanitary Works.	Chapt. V. Lands taken for Tanzim.	Chapt. VI. Petty Expenses.	TOTAL.
	L.E.	L.E.	L.E.	L.E.	L.E.	L.E.	
Rosetta ... ... ... ...	—	400	849	170	330	30	1,931
Suez ... ... ... ...	490	850	2,844	243	350	20	4,484
Damietta ... ... ... ...	3,643	660	3,377	257	559	50	9,596
Mataria ... ... ... ...	—	232	1,589	25	936	24	3,102
Dessuk ... ... ... ...	67	333	930	79	100	15	1,835
Zifta ... ... ... ...	80	614	972	129	321	40	2,465
Kafr el Zayat ... ... ... ...	88	915	836	94	503	5	2,497
Mehalla el Kobra ... ... ... ...	56	358	1,169	107	468	20	2,273
Samannud ... ... ... ...	91	243	807	114	475	5	1,966
Shibin el Kom ... ... ... ...	66	550	1,221	206	504	10	2,625
Benha ... ... ... ...	71	510	1,724	117	458	10	3,044
Mina el Kamh ... ... ... ...	29	250	685	50	—	10	1,232
Simbellawein ... ... ... ...	—	250	724	66	—	25	1,324
Mit Ghamr ... ... ... ...	95	617	1,153	77	323	20	2,470
Giza ... ... ... ...	120	600	1,234	95	392	10	2,543
Sennuris ... ... ... ...	48	300	859	108	—	3	1,343
Beba ... ... ... ...	—	250	671	167	—	10	1,330
Minia ... ... ... ...	265	650	1,816	189	482	20	3,757
Assiut ... ... ... ...	536	847	2,102	185	596	—	4,884
Mallawi ... ... ... ...	131	350	922	138	—	10	1,687
Manfalut ... ... ... ...	149	276	700	145	50	10	1,562
Abu Tig ... ... ... ...	96	240	575	110	64	10	1,322
Akhmim ... ... ... ...	84	426	906	138	—	8	1,673
Tahta ... ... ... ...	103	380	871	152	247	10	1,954
Girga ... ... ... ...	111	540	1,221	127	374	—	2,418
Sohag ... ... ... ...	160	439	1,234	153	277	10	2,510
Kena ... ... ... ...	332	486	1,215	141	405	20	2,681
Luxor ... ... ... ...	198	396	1,266	138	427	20	2,630
Esna ... ... ... ...	72	284	769	100	335	4	1,581
Aswan ... ... ... ...	754	520	1,906	148	459	20	4,306
Tala ... ... ... ...	72	350	848	114	—	6	1,419
Menuf ... ... ... ...	587	250	882	157	559	20	2,688
Belbeis ... ... ... ...	39	310	642	112	72	20	1,301

F.—GOVERNORATES.

(i) CAIRO.

(a) *Water Supply.*

The convention between the Government and the Cairo Water Company was completed in March 1910 : the arrangement provides for the return to the Nile as the source from which the raw water will be drawn, for sedimentation tanks of liberal extent, for the installation of a mechanical system (Jewell) of filtration, and for reservoirs of ample capacity.

The drawings and designs had been prepared in advance, so that as little time as possible was lost in putting the work out to adjudication, and completing the contract for filters with the Jewell Company.

The designs provide for an automatic control and delivery of the coagulant, which is by this means accurately adjusted to the amount of water passing into the sedimentation tanks. The same automatic mechanism is also provided in connection with the sterilization apparatus for use in cases of emergency.

The designs also include a hydraulic apparatus for interlocking the valves, which renders the latter proof against irregular usage, and, in addition, automatic control of the wash-water flow secures the filter bed from being unduly disturbed at the critical period of its settlement.

Under pressure of the imminent rise of the Nile, the Water Company spared no effort to complete the foundations of the filter house and the primary reservoir (with its waterproof lining) before the infiltration water could reach the level of the floor. This was satisfactorily accomplished, and it was possible to observe the reservoir lying completely dry with a surrounding head of 1·30 metres of infiltration water, a fact which sufficiently establishes the complete protection of the primary reservoir from the danger of contamination by infiltration water.

The building is progressing ; the filters are due to be delivered in May ; the dredging of the river for the laying of the in-take twin-conduits is about to be commenced\*, and it is expected that the installation will be in working order in the early part of 1912.

It is to be noted that the system to be employed is an improved type of that which was erected in Alexandria seven years ago, and which has uniformly given most satisfactory results. Although dealing with an infinitely inferior raw water to any that exists in the Nile at Cairo, Professor Gotschlich (Director of the Municipal Sanitary Service at Alexandria) in his report for 1909 says : « Les résultats sont extrêmement satisfaisants et « peuvent favorablement être comparés avec les résultats obtenus n'importe où ailleurs ; il « n'y a pas eu accident pendant toute l'année ; malgré qu'en été l'eau brute du Canal « Mahmoudieh était d'une qualité si mauvaise que sa transparence descendait à 0·01 mètre « et son contenu en bactéries montait par contre jusqu'à 9260 germes par ccm. l'eau filtrée « fut toujours de qualité irréprochable ; sa transparence était toujours au-dessus de 2·00 « mètres et le maximum de bactéries par ccm. n'était que 64, alors que la moyenne restait « toujours au-dessous de 30. »

(b) *Drainage.*

The chief question in relation to the drainage scheme which has been of interest to the Public Health Department during the year under report is that of the surface drainage

\* March 1911.

over an important area of the city. There had been serious difficulties (not unforeseen in last year's report) in the satisfactory elaboration of this scheme, and considerable care and ingenuity was required in order to bring it within the minimum limits of general sanitary requirements.

As regards the progress of the main works, the following are extracts from a statement which Mr. Carkeet James has kindly supplied :—

The engineers' quarters and offices at Pont Sahel have been completed at a cost of L.E. 3,372.

The surface water drainage of the city has cost approximately to the end of the year L.E. 72,356. The progress has been satisfactory when it is considered that no work was allowed to proceed before the middle of March and that it was closed down in the early part of December when the first tourists commenced to arrive. Approximately, one-half of the work has been completed, since 19,168 metres of pipeline have been laid. The construction of the surface water outfall drain in the Ismailia Canal has also been completed.

The sewerage of Zeitoun and adjoining suburbs has proceeded satisfactorily. Nearly one-half of this also has now been finished, and the approximate expenditure to the end of the year is L.E. 27,029.

The work on the main collector is progressing, but great difficulties are being experienced with subsoil water. The expenditure to the end of the year has been L.E. 17,354. 672 metres have been completed.

Excavation is proceeding at the screening chamber and the sump at the pumping station near the village of Kafr el Gamous. About L.E. 2,000 has been expended on this work.

The contractors for the "rising main" have made excellent progress and 7·5 kilometres have been laid, while a large number of pipes are on the ground ready to be laid. More than half this contract is now finished, and it is probable that the whole will be completed in June, 1911—sixteen months before the contract time. The total expenditure to the end of the year is L.E. 56,000.

The amount expended on the quarters at the Khanka Sewage Farm is L.E. 14,358. The Superintendent's house, the native clerks' and labourers' quarters have been completed and are partly occupied by officers of this Department on duty at Khanka.

The water supply at the Khanka Sewage Farm has been completed and a well has been sunk, an oil engine and pump erected, and a small engine house built. The expenditure on these contracts amounted in all to L.E. 987.

During this year, the contract for the manufacture and erection of the main pumping station machinery has been let and the manufacturers are proceeding with the work.

The engineers' quarters at the main pumping station are nearing completion, and the total cost to the end of the year is L.E. 1,203.

The contract for the compressed air system has been let and the contractors have been given orders to commence from January 1st, 1911.

In the Mousky, during June, July and August, the work of laying the sewer, the surface water drain, the sealed sewage and air mains and the sinking of the ejector were undertaken and satisfactorily completed by the 31st of August.

The experiment of making use of from 500 to 600 convicts on the Khanka Sewage Farm has been satisfactory. An area of about seventy feddans has been levelled at a less rate than could have been done by a contractor. Over 60,000 cubic metres of levelling has been done by the convicts in about three months, which works out at 1·8 cubic metres per diem per man.

(c) *Conservancy.*

*Cairo Scavenging and Watering Service.*—The Scavenging and Watering Service operates over an area of over four million two hundred and twenty thousand square metres of roads and streets, squares and lanes in the City and suburbs of Cairo.

According to the Tanzim figures, the paved area in Cairo was :—

	Square Metres.
At the end of 1909 ... ... ... ... ... ... ...	2,418,100
During 1910, this area was increased by ... ... ...	<u>102,410</u>
The total paved area at end of 1910 was therefore ...	2,520,510
Earth roads (approximately) ... ... ... ... ...	<u>1,700,000</u>
Total area... ...	<u><u>4,220,510</u></u>

A credit of L.E. 371, was added to deal with an increased paved area of 37,260 square metres for scavenging and watering from date of completion of construction until 31st December, 1910, and a temporary credit of L.E. 55, for three months, was paid by the Railways Administration to cover the cost of labour and transport for washing the station square, which was asphalted during 1910 (8,000 square metres).

The various chapters (not including permanent staff) under which the budget of L.E. 46,672 was expended are detailed below :—

DESIGNATION.	Budget Allowance.		Expenditure.	
	L.E.	M.	L.E.	M.
Agents hors cadre ... ... ... ... ... ... ...	5,433	...	5,385	019
Salaires de journaliers ... ... ... ... ... ... ...	15,224	...	15,198	432
Matériel ... ... ... ... ... ... ...	5,599	...	5,192	867
Uniformes ... ... ... ... ... ... ...	200	...	253	648
Remonte ... ... ... ... ... ... ...	978	...	1,033	088
Entretien and réparation de matériel ... ... ... ...	1,560	...	1,545	165
Entretien and réparation de bouches d'arrosage ...	680	...	639	229
Eau ... ... ... ... ... ... ...	7,799	...	7,675	380
Fourrages ... ... ... ... ... ... ...	8,699	...	8,887	895
Frais divers ... ... ... ... ... ... ...	500	...	591	475
Totaux... ... ...	46,672	...	46,402	198

185 animals of a value of L.E. 4,625 are still stabled in matting and wooden sheds. In case of fire, it would be practically impossible to rescue them.

STABLE.	Number of Animals Stabled in Wood and Matting Sheds.
Abbassia... ... ... ... ...	65
Mataria ... ... ... ... ...	8
Madbah ... ... ... ... ...	112
Total... ... ...	185

*Law. Regarding the Cleanliness of Streets.*—One of the most serious difficulties experienced by the Service, and through which a considerable expenditure is caused which might be avoided, is the utter disregard of every inhabitant of the law controlling the throwing out of rubbish after certain hours on the public street. That this difficulty of enforcing the law is not confined to this country is demonstrated by a speech delivered at the Guildhall in London last year by the late Chairman of the Streets Committee, who stated :—

“ With regard to the removal of house refuse, the permission given to the inhabitants to place their refuse in receptacles on the kerbs was greatly abused. The streets were

frequently made dirty by refuse placed in unsuitable receptacles and after the stipulated time, the principal cause being that in many premises no person was resident by night, and objection was taken to opening by eight o'clock. It would unquestionably be necessary in the interests of the general community that the by-laws should be more rigidly enforced."

Mr. Wilson, in a Note on the existing law says :—

I have the honour to draw attention to the difficulties existing in the way of properly enforcing the terms of the Arrêté of 13th June, 1895, regarding the cleanliness of the streets.

Art. 1 contains provisions under which the Inspectors of the Scavenging and Watering Service draw up contraventions against shopkeepers, etc., for throwing out paper and shop sweepings after 8 a.m. The untidiness caused by this action is most noticeable in the European quarters of the town. An Inspector on his rounds finds a European, or more commonly a native shop employee, sweeping out a shop. He asks the man for his name which is usually refused at first ; finally, after an appeal to the nearest policeman, a name is forthcoming which is often found to be false. A procès-verbal is drawn up and sent to the Police for action. When the Police try to serve it, they are met with the answer that the name is not known ; if the Inspector is called to the place to identify the offender either he is stated to have left or is hiding in the shop. Should the owner or tenant of the shop be a European subject, the Police are not allowed to enter the place.

In the case of a European shop employee, he either gives a false name or sometimes retires into the shop without speaking, in which case the Inspector is helpless as an appeal to the shopkeeper is usually met with "malesh" or a plea of ignorance of the offence or sometimes a curt intimation to go about his business.

In the case of houses, if the servant takes no notice and retires into the house, the Inspector is helpless. One very common trick is, when the Inspector is seen, to leave paper and sweepings on the pavement and after he has passed to sweep them into the street in front of another house. The usual time for sweeping rubbish, etc., on the roadway is between 12 and 1 p.m., during the luncheon interval. The remedy to this would be to make the contravention out against the tenant or proprietor of the shop, but this is not allowed by the terms of the Arrêté.

Art. 2 deals with beating of carpets on public thoroughfares, and from windows, balconies, etc. To this article similar remarks equally apply. It is manifestly impossible for a Scavenging and Watering Service Inspector to obtain the name of, or identify servants or others beating carpets out of the windows of a house two, three, or more stories high, when he is not allowed to enter the house. A European owner or tenant is therefore under these circumstances practically immune from contravention.

The disposal of rubbish in Cairo is now becoming a very serious question, and the Department will shortly have to face a large expenditure in transport to remove it from the City unless some more economical method of disposal can be developed.

Various low-lying lands and birkas have been filled in and now there are practically only three outlets remaining, viz., Sayeda Zeinab, behind the Abattoir, where a small portion is burnt in the Destructor ; Chanawani and Husseinieh. If by any means, either of these outlets were stopped, the work connected with the output of over 600 loads daily would be paralysed. I am in communication with the Delta Railway system which touches at each of these outlets, in order to arrange a method of transport to the desert.

One of the chief troubles in burning Cairo refuse is that there is 40 per cent of unburnable rubbish, also the proportion of cinders, coal, and wood contained in the rubbish is infinitesimal.

Thus in any proposition for building another Destructor, the expense of sifting, and the difficulty of disposing of the unburnable proportion must be considered.

*Destructor.*—I. Cost of upkeep.

	Total...	Per month.		Per annum.	
		L.E.	M.	L.E.	M.
Labour (screen)...	47	500	570	—	—
"(Destructor)"...	10	500	126	—	—
Hors Cadre (Destructor) ...	52	750	633	—	—
Transport ...	9	—	108	—	—
Repairs ...	1	083	13	—	—
		120	833	1,450	—
Upkeep per annum :					
Stores material ...	100	—	—	—	—
Building ...	300	—	400	—	—
		Cost per annum ...	... ... ...	1,850	—

Cost of Destructor, L.E. 8,000.

Working days, 270.

II. Weight of rubbish burnt per day at Destructor :—

Fresh ... ... ... ...	20,250	kilos.
Old ... ... ... ...	3,000	"
Manure ... ... ...	2,000	"
Market refuse ... ...	4,750	"
	—	
	30,000	"

Average weight of rubbish in each small rail waggon, 220 kilos.

Cost of burning per ton, 226 milliemes.

*Rolling Stock.*—The Service possessed up to the end of 1910 the following :—

	Number.		Number.
(a) Carriages ... ... ... ...	3	(f) Maehine brushes :—	
(b) Cart ... ... ... ...	1	Double ... ... ... ...	32
(c) Motor waggon ... ... ...	1	Single ... ... ... ...	1
	—		33
(d) Water carts :—	5	(g) Scraping machine ... ... ...	1
Double ... ... ... ...	59	(h) Trolleys :—	
Single ... ... ... ...	65	Double ... ... ... ...	9
Donkey ... ... ... ...	3	Single ... ... ... ...	4
	—		13
(e) Dust carts :—	127	(i) Autocars ... ... ... ...	28
Double ... ... ... ...	43	(j) Hand earts (various) ... ...	52
Single ... ... ... ...	126	(k) Dust bins ... ... ... ...	310
Donkey ... ... ... ...	12	Steam rain punips ... ...	3
	—	Rain pumps ... ... ...	6
	181	Bicyeles ... ... ...	53

*Animals.*—The Service possessed at the end of 1910 :—

446 mules.  
23 donkeys.  
14 horses.

	Bought.	Destroyed.	Died.	Sold.
Mules.. ... ... ... ...	36	19	3	4
Donkeys ... ... ... ...	—	1	2	—
Horses ... ... ... ...	3	2	—	—

Average price per mule, L.E. 25 to 30.

TABLE XXXIII.

## WATER CONSUMPTION.

		1909.	1910.
		Cubic metres.	Cubic metres.
Deeember ...	... ... ... ... ...	32,024	29,864
January ...	... ... ... ... ...	30,933	33,129
February ...	... ... ... ... ...	44,463	42,109
March ...	... ... ... ... ...	70,064	45,111
April ...	... ... ... ... ...	62,121	77,977
May ...	... ... ... ... ...	97,000	84,449
June ...	... ... ... ... ...	108,265	91,664
July ...	... ... ... ... ...	98,763	86,058
August ...	... ... ... ... ...	94,947	96,933
September ...	... ... ... ... ...	71,941	75,403
Oetober ...	... ... ... ... ...	61,446	66,347
November ...	... ... ... ... ...	50,263	38,793
TOTAL ...	...	822,230	767,837

*Contract Prices for Forage, 1910.*

L.E. M.

Barley ...	... ... ... ... ...	0	769	per ardeb of 112½ kilos. Bulaq stables.
Tibbn ...	... ... ... ... ...	2	680	per ton of 1,000 kilos. Bulaq stables.
Bran ...	... ... ... ... ...	5	400	per ton of 1,015 kilos. Bulaq stables.
Rice straw for bedding ...	... ... ...	1	385	per ton of 1,000 kilos. Abbassia siding.
Berseem and doura ...	... ... ...		40	per kantar delivered in the various stables, etc.

Mr. Miller reports as follows on the animals belonging to the Scavenging and Watering Service :—

The total number of animals in the Service was 486, comprising 445 mules, 18 horses and 23 donkeys (appended is a list of their distribution).

During the year, 38 animals were purchased, *viz.*, 35 mules and 3 horses ; 3 mules were sold as unfit for service work, and 23 were struck off strength, having died or were destroyed.

The number of animals admitted into the infirmary was 106, of which :—

- 43 were treated for lameness,
- 31 „ „ „ „ wounds,
- 6 „ „ „ „ colic,
- 5 „ „ „ „ tumours,
- 1 was treated for tetanus,
- 4 were treated for spavin,
- 2 „ „ „ „ conjunctivitis,
- 2 „ „ „ „ fractures, and
- 5 „ „ „ „ fever and off-food ;

and the following number for contagious diseases :—

- 3 for strangles,
- 1 „ skin-disease,
- 2 „ epizootic lymphangitis, and
- 1 „ glanders (destroyed).

*Shoeing.*— 8,748 sets of shoes were made by the farriers during the year, some of the mules, particularly the water-cart animals, requiring to be shod two or even three times during the month owing to the nature of their work wearing out their shoes very quickly.

The coal and iron were supplied by local merchants, and the nails by the Petersen Company.

The average working hours for the water-cart and dust-cart mules was  $10\frac{1}{2}$  hours per diem, and for machine brush mules, 6 hours per diem.

*Forage.*—The animals are fed three times daily, and appended is a table of the ration per animal per diem.

The barley and bran were supplied by the Egyptian Army, and the straw and tibbn by local contractors.

DISTRIBUTION OF ANIMALS OF THE SCAVENGING AND WATERING SERVICE.

STABLE.	Mules.	Horses.	Donkeys.	Total.
Bulaq Central ... ... ... ...	169	14	8	191
Abbassia ... ... ... ...	97	...	...	97
Giza ... ... ... ...	34	...	...	34
Shubra ... ... ... ...	14	...	...	14
Mataria ... ... ... ...	16	...	5	21
Madbah ... ... ... ...	105	2	8	115
Infirmary ... ... ... ...	10	2	1	13
TOTAL... ... ...	445	18	22	485

*Forage Ration per Animal per Diem when no Berseem is given.*

	Barley.	Bran.	Tibbn.	Straw.
	Kilos.	Kilos.	Kilos.	Kilos.
Water-cart mule ... ... ...	5·625	0·50	3·750	1·500
Machine brush mule ... ... ...	6·125	0·725	3·750	1·500
Dust cart mule ... ... ...	4·500	0·50	3·750	1·500
Horse ... ... ... ...	4·500	0·50	3·750	1·500
Donkey ... ... ... ...	2·750	0·50	2·500	1·500

*Ration During Berseem Season.*

	Barley.	Tibbn.	Straw.	Berseem.
	Kilos.	Kilos.	Kilos.	Kilos.
Water-cart mule ... ... ...	4·500	2·500	1·500	25
Dust cart ... ... ... ...	3·937	2·500	1·500	25
Horse ... ... ... ...	3·375	2·500	1·500	25
Donkey ... ... ... ...	1·688	2·000	1·500	15

(ii) ALEXANDRIA.

There is little to add to the note of 1909. The negotiations for the increase (from L.E. 500,000 to L.E. 1,000,000) of the borrowing powers of the Municipality were in progress and are said to be near a favourable completion. When the produce of the loan is available it is proposed that the drainage scheme now awaiting its inception shall be commenced forthwith.

A very excellent report \* by Professor Dr. Gotschlich (Director of the Municipal

\* Published by, and obtainable from the Municipality of Alexandria.

Sanitary Service) deals in detail with many questions of interest and of valuable work done by his service.

(iii) PORT SAID.

- (a) The waterworks extension (Puech-Chabal system) was still unfinished at the end of 1910, but it is hoped that the complete installation will be in working order during the current year.\*
- (b) The drainage scheme is still a work of the future, pending the settlement of the financial means for its execution.
- (c) A new destructor was built but is not yet in work ; a road of approach is still required.

(iv) SUEZ.

There is no note of special interest to add to that of last year.

The question of the pilgrimage, which is one of supreme interest to Suez, is dealt with in another section (pages 42-55), as also is that of the anti-malaria campaign (pages 39-40).

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G.—MUDIRIAS AND PROVINCIAL COUNCILS.

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In the last report, reference was made to a circular that was sent out by the Department with a view of endeavouring to interest these newly-established bodies in matters of elementary sanitation. The following is a translation of the (Arabic) circular in question issued to the Mudiria Inspectors of the Department :—

With reference to Art. 2 of Law No. 22 modifying the Organic Law, empowering the Provincial Councils to devote a portion of their five per cent. contribution towards works of public utility, I have to draw your attention to certain works of sanitation worthy to receive their consideration as concerning matters of considerable interest. The works which may be said to deserve first consideration are :—

(a) The erection in each village of small pavilions consisting of two or three rooms with dependencies for the isolation of cases of infectious disease, a measure which would thus be carried out in greater comfort and convenience than under tents, as at present.

(b) The better training of a certain number of superior sanitary barbers capable of reading and writing, who could be entrusted with vaccination, registration of births and deaths, notification and isolation of infectious diseases, etc. The Department of Public Health would undertake the training of these barbers, but the Provincial Council would provide for their pay.

(c) *Water-supply.*—Provision should be made to insure a good water-supply in the villages which are situated at a distance from the Nile or large canals. This is a wide question, but in such villages, provided they are not situated in the northern belt of the Delta, the sinking of Abyssinian tube-wells is the most practical way of achieving this purpose ; the sanitary barber might also be trained in the upkeep of these wells so as to be able to effect minor repairs when necessary.

You are therefore requested to approach H.E. the Mudir, as President of the

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\* It is now complete and in working order.—December, 1911.

Provincial Council, on the above questions, in order to discuss the matter with the members of the Council and press upon them to arrive at a satisfactory result.

The replies received varied much in form, but in substance they almost unanimously expressed sincere approval of the objects, but greatly regretted the deficiency of funds for carrying out such measures.

On further Departmental representation, some of the Councils responded in a more liberal spirit, with the result that some progress has already been made in the desired direction. It is, however, as yet too early to report on the work now in hand, but it is probable that at least some of the Councils will have reached a stage requiring account in the coming year.



### PART III.—SCIENTIFIC ESTABLISHMENTS.

#### (i) HYGIENIC INSTITUTE AND BACTERIOLOGICAL LABORATORIES.

The following is a list of the routine examinations made during the year:—

	<i>Infectious Diseases.</i>	Number of cases.
Plague diagnosis	... ... ... ... ...	328
Cholera	" ... ... ... ...	11
Diphtheria	" ... ... ... ...	445
Gonorrhea	" ... ... ... ...	183
Typhoid (culture test)	... ... ... ...	54
Typhoid (agglutination test)	... ... ... ...	678
Malta	" " ... ...	600
Paratyphoid "B" (agglutination test)	... ... ... ...	600
Malaria	... ... ... ...	410
Relapsing fever	... ... ... ...	593
Tuberculosis	... ... ... ...	42
Leprosy	... ... ... ...	30
Syphilis (Wasserman reaction)	... ... ... ...	77
Animal diseases	... ... ... ...	24
		<hr/> 4,075

The bacteriological routine work concerning infectious diseases was done for :—

- Infectious Diseases Hospital.
- Deaconesses Hospital.
- Kasr el Aini Hospital.
- Anglo-American Hospital.
- Austrian Hospital.
- French Hospital, and on request of private practitioners.

#### *Bacteriological Water Examinations.*

Daily samples of tap water in Cairo	... ... ... ...	365
Giza water supply	... ... ... ...	260
Rod el Farag wells	... ... ... ...	312
Examinations for bacillus coli in Nile water	... ...	416
		<hr/> 1,353
		1,353

#### *Chemical Water Analyses.*

In connection with water supplies of Cairo and provincial towns	... ... ... ...	507
		<hr/> 507
		<hr/> 5,935

In addition to the above, many bacteriological and chemical examinations were made in connection with the testing of various processes under consideration of the Department for the filtration and sterilization of drinking water.

Besides the regular routine work of the Institute a good deal of time is necessarily occupied in the investigation and consideration of questions submitted by the Direction General for technical advice.

The investigation of epidemics in various parts of Egypt necessitates often a more or less prolonged absence of members of the staff from the Institute.

#### *Research Work.*

The great amount of routine work now done by the Institute completely occupies the official hours. Nevertheless it has been possible to carry out a good deal of research by working in the afternoons and evenings.

The investigation of the properties of the serum of the animals used for the preparation of Cattle Plague Serum at the Serum Institute has been continued and has given most interesting results which have already been published in two Departmental papers.\* This research is being continued.

At the end of 1910 the occurrence of a large number of swollen legs amongst the inhabitants of the village of Abou Roash was brought to the notice of the Institute and in order to investigate this question a temporary camp was established near the village. The cases in question were found to be Elephantiasis Arabum, and the examination of the blood of a large number of the inhabitants revealed the existence of an endemic centre of filariasis, the parasite being found in 46 per cent of the apparently healthy individuals examined.

A similar examination of the populations in the villages of Kerdassa and Beni Magdool showed both these villages to be highly infected. Owing to press of work in the Institute this research had to be stopped, but it will be continued as soon as conditions permit.

The examination of rats from various parts of Egypt and the enumeration and determination of the fleas carried by them has been continued during 1910. A total of 1,263 rats was examined, *viz.* :—

From Dessuk	...	...	...	...	...	...	...	...	...	...	47
„	Mehalla el Kobra	...	...	...	...	...	...	...	...	...	57
„	Samanud	...	...	...	...	...	...	...	...	...	104
„	Mansura	...	...	...	...	...	...	...	...	...	142
„	Kafr el Dauwar	...	...	...	...	...	...	...	...	...	85
„	Damanhur	...	...	...	...	...	...	...	...	...	828
										Total...	<u>1,263</u>

A large amount of time and work was devoted to the study of a practical method of freeing river water from pathogenic bacteria previous to filtration by means of nascent oxychlorides. These investigations necessitated several thousands of bacteriological and chemical examinations. This work has given, so far, very favourable results which seem to be of great importance for the future of river water supplies in Egypt.

At the Infectious Diseases Hospital at Abbassia during the year 1910 Ehrlich's new remedy "Salvarsan" (606) was studied on a large scale with excellent results. The scientific study of this remedy necessitated a great number of bacteriological examinations done partly in the Hygienic Institute and partly in the small laboratory attached to the Hospital.

In connection with the "Salvarsan" treatment, one of the most important and interesting problems is that of determining the final destiny of the arsenic contained in the remedy. In pursuance of this purpose some 150 analyses for arsenic were made in the excreta of patients in the chemical laboratory of the Hygienic Institute.

\* Details of these publications are given on pages 76-77.

In the laboratory of the Hospital the following bacteriological examinations were made in 1910:—

For relapsing fever ... ... ... ... ... ... ... ...	1,244
„ typhoid, Malta fever and paratyphoid ... ... ...	342
„ diphtheria ... ... ... ... ... ... ...	64
„ meningitis ... ... ... ... ... ... ...	20
„ tuberculosis... ... ... ... ... ... ...	11
	<hr/>
	1,681
	<hr/>

#### *Serum Laboratory.*

In this laboratory the cattle plague serum prepared at the Serum Institute at Abbassia is centrifugalised, mixed with carbolic acid, bottled and packed. The serum is then stored in a cold room hired by the Department in the Nile Cold Storage.

During the year 1910, 4,188 litres or 18,611 bottles = 83,760 doses of cattle plague serum were prepared in the laboratory.

#### *Anti-Scorpion Serum.*

This serum, in the first instance, was worked out and made by the officials of the Hygienic Institute. The manufacture of it was handed over to the Lister Institute in London in 1909, and the serum is now received from this Institute on payment.

The following statistics illustrate the results of its use and in connection with these figures it must be remembered that the great point of importance is that the serum should be administered within a very short time of the infliction of the sting.

TABLE XXXIV.

#### STATISTICS OF CASES TREATED WITH ANTI-SCORPION SERUM FROM 1906 TO DECEMBER 31, 1910.

Age.	Number of Cases.	Lived.	Died.
From 0— 5 ... ... ...	34	32	2
„ 6—10 ... ... ...	14	14	0
„ 11—15 ... ... ...	8	7	1
„ 16—20 ... ... ...	6	6	0
Over 20 ... ... ...	42	42	0
Total... ...	104	101	3

The details of the 3 fatal cases are as follows:—

1. Child aged 2 years : { stung at noon, 5 cc. serum } serum used was more than a year old.  
{ 2 p.m., died next morning. }
2. Infant aged 6 months : { 6 cc. 1 hour after sting,  
died half-an-hour later. }
3. Boy aged 11 years : 10 cc. 8 hours after sting.

#### (ii) VACCINE INSTITUTE.

The calf lymph produced in the establishment during the year 1910 has given the same satisfactory results obtained in former years.

The quantity collected during the year 1910 amounted to 914,000 units, as compared with 1,143,000 in 1909.

Lymph was issued as follows :—

	Quantity.
To officers of the Department in Cairo and Provinces (gratis) ... ...	388,375
To societies of charity, etc., (gratis) ... ... ... ... ...	16,140

*Issued on Payment.*

To Egyptian Army ... ... ... ... ...	8,140
To Sudan Government ... ... ... ... ...	48,360
To Army of Occupation ... ... ... ... ...	1,370
To Ministry of Education ... ... ... ... ...	10,505
To Alexandria Municipality ... ... ... ... ...	61,000
To Railways Administration ... ... ... ... ...	100
To Prisons Department ... ... ... ... ...	355
Total sold to Government Administrations ... ...	<u>129,830</u>
 	129,830
Sold to dispensaries, and medical men ... ... ... ... ...	1,745
Used for vaccinating calves ... ... ... ... ...	<u>277,910</u>
Total issued ... ... ... ... ...	814,000
Remaining on January 1st, 1911 ... ... ... ... ...	100,000

Receipts from sale of vaccine, L.E. 337.

According to reports of officers of the Public Health Department, successful results were obtained in 97·2 per cent. of the primary vaccinations and 85 per cent. of re-vaccinations:—

Mr. F. E. Mason reports as follows:—

The animals used to produce the lymph are specially selected buffalo calves ranging from 10 months to 2 years old.

The results obtained are much influenced by the general condition of the subjects at the time of inoculation, whether house-reared or reared in the open, and various details unnecessary to be mentioned here.

The method adopted for the production of the vaccine is as follows:—

The subject is secured on an operating table, the hair is clipped off one side and the belly, these areas are then thoroughly scrubbed with soap and water, shaved, washed repeatedly with sterile water, dried with boiled cloths, and finally cleaned with cotton and strong alcohol. Depilatories have been tried in lieu of shaving with indifferent results; the hair is not readily removed from buffalo by these agents and a certain amount of dermatitis follows, interfering with or even preventing a proper reaction to the vaccine virus.

After preparation by the above method, the calf is inoculated in patches measuring about 5 square centimetres by lightly scarifying with an instrument dipped in the seed vaccine.

By this method an average of 10,000 units is obtained from each calf; this is roughly about ten times the quantity that would be obtained were the linear method employed.

After inoculation the calves are placed for five days in a special stable and kept as far as possible at an even temperature. The best results are obtained at about 75° F.; failure will occur if the temperature is allowed to fall below 60° F., or rise above 84° F.; failure or a poor supply of vaccine will follow the advent of winds, whether "khamseen" or other, sudden change of weather, or excessive dryness. In the latter case constant sprinkling of the stable with water has a beneficial effect.

On the fifth day from the date of inoculation the patches are thoroughly cleaned with sterile water and the entire scab and subjacent lymph removed by the sharp spoon.

The material thus collected is passed first through a "broyeur latapie" and subsequently twice through an electric driven triturator set at different grades, mixed with sterile glycerine and distilled water in the requisite proportions.

The material is then filtered through boiled gauze to remove the short stubble which unavoidably grows on the seats of inoculation, under the scab, between the times of inoculation and collection.

The lymph is then poured into sterile bottles, sealed and incubated at 14° C. to 15° C. for not less than 30 days before it is put up into tubes of 5 and 10 units each for issue. Specimen sealed tubes are submitted to the Institute of Hygiene for bacteriological control.

As regards the length of time the vaccine continues to prove effective, it is interesting to note that excellent results have been obtained with material after nine months' incubation at the temperature above mentioned. In the last four years no vaccine has been kept for a longer period than this, but seed vaccine supplied to the Jenner Institute, London, continued to give good results after two years had elapsed, when the particular supply in question was finished (vide their letter dated March 26th, 1909).

The method of re-enforcing differs from that in general use in France and England. In this country rabbits are of little or no use for that purpose. Experience seems to show that rabbits as a rule do not "take" or take but feebly when inoculated from calves or arms. When rabbits do take, the material obtained from them rarely proves infective to calves and when it does infect calves the lymph obtained from the latter is weak and gives unsatisfactory results when inoculated into human beings.

Consequently recourse has been had to the following method :—

The seed vaccine is obtained by inoculating a special calf with lymph obtained from arms selected by a medical officer. The arm-lymph is glycerinated, triturated and incubated for not less than a month in the ordinary way before use and is submitted for bacteriological examination. If the examination is satisfactory the lymph collected from the special calf is then kept as seed lymph for calves only.

A third passage through calves is also frequently practised, but when the atmospheric conditions are not entirely suitable, as is often the case, the method of second passage gives by far the better results.

A fourth passage through calves is apt to give poor results or to fail entirely, and has therefore been discarded.

### (iii) ANTI-RABIC INSTITUTE.

The following notes are abstracted from the report of Dr. Bain, the Director of the Institute.

During the course of the year 658 persons have been treated as shown in the following table :—

TABLE XXXV.

	1909.	1910.		1909.	1910.
January ... ... ... ...	53	54	<i>Brought forward...</i>	406	389
February ... ... ... ...	48	43			
March ... ... ... ...	63	66	August ... ... ...	46	55
April ... ... ... ...	66	56	September ... ... ...	73	56
May ... ... ... ...	52	55	October ... ... ...	48	51
June ... ... ... ...	66	55	November ... ... ...	65	59
July ... ... ... ...	58	60	December ... ... ...	56	48
<i>Carried forward...</i>	406	389	Total... ...	694	653

Of the 658 persons treated 496 were Egyptians, 90 Europeans resident in Egypt and 72 were foreigners from Palestine and Syria.

Considered geographically, the origin of these persons was as follows :—

TABLE XXXVI.

GOVERNORATE OR PROVINCE.	NUMBER OF PERSONS BITTEN.		GOVERNORATE OR PROVINCE.	NUMBER OF PERSONS BITTEN.	
	1909.	1910.		1909.	1910.
Cairo ... ... ... ...	96	103	Beni Suef ... ... ... ...	24	9
Alexandria ... ... ... ...	55	37	Fayum ... ... ... ...	17	6
Canal Governorate (Port Said, Ismailia) ... ...	23	5	Giza ... ... ... ...	15	21
Behera ... ... ... ...	42	24	Minia ... ... ... ...	24	26
Sharkia ... ... ... ...	43	44	Assiut ... ... ... ...	36	24
Kaliubia ... ... ... ...	21	22	Girga ... ... ... ...	23	17
Dakahlia ... ... ... ...	45	68	Kena ... ... ... ...	18	21
Gharbia ... ... ... ...	84	101	Aswan ... ... ... ...	4	4
Menufia ... ... ... ...	76	54	Syria, Palestine and Rhodes	46	71
			Abyssinia ... ... ... ...	2	1

The following table shows the various animals, etc., which inflicted the injuries :—

	NUMBER OF PERSONS BITTEN.	
	1909.	1910.
By dogs ... ... ... ...	610	616
,, cats ... ... ... ...	46	24
,, wolves ... ... ... ...	21	3
,, donkeys ... ... ... ...	5	—
,, rats ... ... ... ...	1	—
,, pigs ... ... ... ...	1	—
,, monkeys ... ... ... ...	6	3
,, gazelles ... ... ... ...	—	8
,, calves ... ... ... ...	—	1
,, foxes ... ... ... ...	—	1
,, rabid person ... ... ... ...	—	1
Infected in the course of work in the laboratory	2	1
Scratched by animals ... ... ... ...	2	—

#### Position of the bites :—

	1909.	1910.
On the head ... ... ... ...	70	69
On exposed parts ... ... ... ...	298	306
Through clothing ... ... ... ...	326	283

Of the total of 658 persons who presented themselves at the Institute for treatment 75 must be deducted. In 72 cases the treatment was stopped as the animal which had bitten them was found, after an observation of at least 10 days, to be free from hydrophobia ; in 3 cases the patients themselves ceased from attending for treatment.

The following statistics relate, therefore, only to the remaining 583 cases :—

(a) Amongst these, 48 were bitten by animals proved by microscopical examination and experiment to have been rabid.

(b) In two cases the dogs, which had bitten the patients, died from rabies during the period of observation, but their brains were found to be in such a state of putrefaction, on arrival at the Laboratory, as to permit of no further examination.

(c) 24 persons were bitten by animals which were certified as rabid by the veterinary service of Alexandria Municipality.

(d) In 10 other cases in which it was impossible to make the post-mortem diagnosis in the animals, clinical histories or veterinary reports leave no doubt that the animals were really rabid.

(e) In 10 cases the deaths of the patients confirmed the diagnosis of rabies in the animals.

In all 448 animals inflicted the injuries on the 658 persons who came for treatment.

13 of these bit the 48 people mentioned in paragraph (a).

2 caused the injuries to those „ „ paragraph (b).

10 „ „ „ „ „ „ paragraph (c).

10 „ „ „ „ „ „ paragraph (d).

17 animals were suspect only, the experiments made being inconclusive.

82 animals were found, after observation, to be healthy.

136 bodies of animals, which were sent to the Laboratory, could not be examined on account of their advanced putrefaction.

130 animals escaped after biting persons and were not captured. 48 were killed and their bodies buried instead of being sent to the Laboratory for examination.

In the case of some of the remaining animals no information could be obtained, while in others the diagnosis was not positive either because they were not in fact suffering from rabies or because the examination (at the time of writing) is not concluded.

It has been considered necessary to still further re-enforce the treatment in the cases of bites on the head.

As mentioned in the report of last year the system of attenuation had been replaced by that of dilution of the spinal cord kept for 5 days in neutral glycerine at 39° Beaumé in the ice box.

As it was considered that this was too feeble, cords which had been in the glycerine three days were used in a dilution of 1 in 160, *i.e.*,  $\frac{1}{4}$  of a centimetre of cord in 5 cc. of water.

Emulsion No. 2 =  $\frac{1}{3}$  of a centimetre of cord in 5 cc. of water = a dilution of 1 in 120.

Emulsion No. 1 =  $\frac{1}{2}$  of a centimetre of cord in 5 cc. of water = a dilution of 1 in 80.

These emulsions are given successively by the subcutaneous method for a period of 15, 18 or 21 days, according to the gravity of the case and the site of the bites.

From this point of view the sites of the injuries are arranged in three categories :

1. Bites of the head. These are the most grave and especially those of the face.

2. Bites on other uncovered portions of the body.

3. Bites through the clothing.

In all cases of bites of the first category and in some of those of the second, serotherapy is used in conjunction with the vaccine, as mentioned last year, but a commencement is made now with emulsion No. 3 instead of emulsion No. 4.

Immunity is not acquired until at least 15 days after the conclusion of the treatment; deaths which occur before this period are due to the severity of the poison, the gravity of the bites, or delay in bringing the patients to the Institute.

In the first category, *i.e.*, those in whose cases 15 days had elapsed after the conclusion of the treatment, there were 4 deaths.

There were also 9 deaths during the course of the treatment, or within 15 days of the conclusion of the treatment.

The number of Egyptians bitten was 38 less than last year; the number of Europeans bitten in Egypt was 22 less than last year: in all a total diminution of 60 local cases.

On the other hand, there was an increase of 24 foreigners treated. This number, which was 21 in 1906, 22 in 1907, 36 in 1908, 48 in 1909, has risen to 72 in 1910. With the exception of 1 case from Abyssinia these patients are all from Asia Minor.

The proportion of bites on the head, and bites on uncovered portions of the body is greater than that in 1909.

(iv) KHEDIVIAL CHEMICAL LABORATORY.

This Laboratory has been gradually reduced to two small rooms, all the rest of the building in which it was originally installed being occupied by the Veterinary School. The chief of this laboratory is now doing the chemical analyses in the Hygienic Institute, as there is no chemist attached to the staff of the Institute.

The analyses in the Khedivial Laboratory are done by the assistant chemist who, besides this work, has also to prepare the cattle plague serum and to teach chemistry at the Veterinary School.

718 samples have been examined in the laboratory during 1910, a large number of them medicines (for the Inspectorate of Pharmacies) and various kinds of alimentary substances for the Tribunals, Government Hospitals, etc.

Analyses made at the Khedivial Chemical Laboratory, 1910 :—

(v) SERUM INSTITUTE.

The following tables give the details of the work done :—

As formerly, Cyprus animals have been imported for the production of virulent blood; the average number being 4 per week.

The total number of cattle (Egyptian and Cyprus) on the first of each month was :—

January	...	...	...	...	119	July	...	...	...	...	111
February	...	...	...	...	123	August	...	...	...	...	119
March	...	...	...	...	116	September	...	...	...	...	117
April	...	...	...	...	122	October	...	...	...	...	120
May	...	...	...	...	120	November	...	...	...	...	112
June	...	...	...	...	120	December	...	...	...	...	126

Of the serum producing animals 4 died, the causes of death being :—

Of the Cyprus animals, two died of syncope.

During the year 5 bulls, found unsuitable for serum production, were bled to death and their blood used for the production of serum. Of these, 3 carcases were sold and 2 condemned, the latter on account of tuberculosis.

The number of re-enforcements and the number of Cyprus animals used for the virulent blood necessary were as follows :—

1910.	Bled.	Re-enforced.	1910.	Bled.	Re-enforced.
January ... ... ... ...	17	49	<i>Brought forward...</i>	119	361
February ... ... ... ...	17	50	August ... ... ... ...	17	51
March ... ... ... ...	17	55	September ... ... ... ...	18	58
April ... ... ... ...	16	49	October ... ... ... ...	15	47
May ... ... ... ...	17	57	November ... ... ... ...	14	52
June ... ... ... ...	17	44	December ... ... ... ...	11	43
July ... ... ... ...	18	57	Total ...	194	612
<i>Carried forward...</i>	119	361			

The number of bleedings and the amount of serum sent to the Department were as follows :—

1910.	Number of Bleedings.	Amount of Serum in litres.	1910.	Number of Bleedings.	Amount of Serum in litres.
January ... ... ... ...	180	348·100	<i>Brought forward...</i>	1,316	2,428·650
February ... ... ... ...	168	300·100	August ... ... ... ...	197	381·800
March ... ... ... ...	204	342·400	September ... ... ... ...	174	352·450
April ... ... ... ...	204	386·250	October ... ... ... ...	202	373·650
May ... ... ... ...	187	357·450	November ... ... ... ...	196	360·250
June ... ... ... ...	193	365·400	December ... ... ... ...	196	350·250
July ... ... ... ...	180	328·950	Total ...	2,281	4,252·050
<i>Carried forward...</i>	1,316	2,428·650			

In this last table there is included the serum produced by the 5 animals which were bled to death.

The total amount of serum produced during the year was 4,252·050 litres. This represents an output of 85,041 doses of 50 cc. each.

During the year the health of the animals has been in every way satisfactory. Beyond the special illnesses incidental to the unusual conditions in which the animals live, there has been nothing to note.

As certain bulls were found unsuitable for the work, it has been arranged to replace them gradually ; for this purpose 7 new bulls were bought during the year and after having been immunised were added to the stock of the serum producing animals.

A family of goats has been purchased for the purpose of continuing certain experiments on blood relationship.

Experiments commenced last year relative to the haemolytic power of the serum have been continued and amplified; a further report will be issued in due course.

#### (vi) ORIGINAL INVESTIGATION AND RESEARCH.

The following papers with regard to original investigations have been published in the course of the year :—

1. C. Todd and R. G. White :

“On the recognition of the Individual by Haemolytic Methods.”

*Proceedings of the Royal Society, B.* Vol. 82, 1910.

2. C. Todd and R. G. White :

“On the Hæmolytic Immune Isolysins of the Ox and their Relation to the Question of Individuality and Blood-Relationship.”

*Journal of Hygiene*, Vol. X, No. 2, September 20, 1910.

3. F. Eugene Mason :

“Sarcocysts in Camels in Egypt.”

*Journal of Comparative Pathology and Therapeutics*, June, 1910.

4. F. Eugene Mason :

“On the Camel Trypanosomiasis of Egypt and Results of First Series of Experimental Drug Treatment.”

*Journal of Comparative Pathology and Therapeutics*, December, 1910.

5. F. Eugene Mason :

“A Further Note on Filariae in the Blood of Camels in Egypt” (*under print*).



## PART IV.—VETERINARY DEPARTMENT.

### (i) CONTAGIOUS DISEASES OF ANIMALS (GENERAL).

Mr. Littlewood, Chief Veterinary Inspector, reports as follows :—

#### *Rabies.*

During the year, 41 cases were reported as occurring amongst animals (36 dogs, 1 cat, 1 wolf, 1 camel and 2 gazelles), against 34 cases during the year 1909. These cases were reported in the following Governorates and Mudirias :—

	1910.	1909.
Cairo ... ... ... ... ... ... ... ...	8	10
Alexandria... ... ... ... ... ... ...	10	16
Assiut ... ... ... ... ... ...	1	...
Minia ... ... ... ... ... ...	3	1
Giza ... ... ... ... ... ...	1	1
Qaliubia ... ... ... ... ...	6	...
Sharqia ... ... ... ... ...	2	...
Gharbia ... ... ... ... ...	4	4
Daqahlia ... ... ... ... ...	3	...
Menufia ... ... ... ... ...	3	2
TOTAL... ... ...	41	34

The muzzling order applied in Cairo and Alexandria is still in force, but not generally observed.

During the year, 3,245 dogs were seized in Cairo by the Police and taken to the Dogs' Home, Bulaq, against 2,773 during the year 1909.

These 3,245 dogs, together with 44 remaining from last year (1909), making a total of 3,289, have been disposed of as follows :—

Claimed by owners ... ... ... ...	388
Destroyed unclaimed ... ... ... ...	2,750
Sold... ... ... ...	64
Died... ... ... ...	28
Remaining on 31st December, 1910... ...	59
Total... ... ...	3,289

Altogether, 6 cases of rabies have occurred in Cairo in dogs and 2 in gazelles.

The cases of the gazelles occurred at Gezira, and the animals were known to have been bitten some weeks previously by a fox.

Eighty-four dogs, seven cats and seven monkeys have been placed under observation for having bitten people, as well as twenty horses, six donkeys and two camels.

Besides the dogs sent to the Dogs' Home, the Police have destroyed 860 in Cairo and suburbs during the year, against 831 in the previous year.

Dr. Piot Bey, Chief Veterinary Inspector, Alexandria Municipality, states that 5,760 dogs and cats were seized in Alexandria during the year, against 3,936 in the year 1909.

These animals have been disposed of as follows :—

Claimed by their owners ...	...	...	...	...	...	...	648
Died ...	...	...	...	...	...	...	26
Destroyed ...	...	...	...	...	...	...	5,086
							<hr/>
Total ...	...	...	...	...	...	5,760	<hr/>

No cases of rabies have occurred at Port Said town since the removal of the muzzling order by the Ministerial Arrêté of 7th February, 1909.

In the Mudirias and Governorates 41,817 dogs were poisoned during the year against 43,348 in the previous year.

Rabies must now be considered to have permanently established itself in Egypt, and beyond checking the spread of outbreaks from time to time, nothing more can be hoped for ; suppressing it entirely seems almost out of the question with such a large number of wild and semi-wild animals in the country. Poisoning dogs in the neighbourhood in all outbreaks and supposed outbreaks has been systematically carried out, but controlling dogs and cats except in towns cannot be entertained.

If care is not taken it is possible that rabies may ultimately spread to the Anglo-Egyptian Sudan ; this possibility has been mentioned to the authorities, and it is presumed that measures will be taken to reduce the risk to a minimum.

#### *Glanders.*

130 cases of glanders were detected in Egypt during the year (including 5 cases detected in Alexandria Quarantine Stations), against 165 in the previous year.

The cases occurred in the following Governorates and Mudirias :—

Cairo ...	...	...	...	...	...	...	...	...	...	...	...	...	42
Alexandria ...	...	...	...	...	...	...	...	...	...	...	...	...	55
Port Said ...	...	...	...	...	...	...	...	...	...	...	...	...	3
Girga ...	...	...	...	...	...	...	...	...	...	...	...	...	1
Fayum ...	...	...	...	...	...	...	...	...	...	...	...	...	4
Giza ...	...	...	...	...	...	...	...	...	...	...	...	...	1
Daqahlia ...	...	...	...	...	...	...	...	...	...	...	...	...	18
Gharbia ...	...	...	...	...	...	...	...	...	...	...	...	...	1
Alexandria Quarantine Stations ...	...	...	...	...	...	...	...	...	...	...	...	...	5
													<hr/>
Total ...	...	...	...	...	...	...	...	...	...	...	...	...	130
													<hr/>

#### *Epizootic Lymphangitis.*

21 cases of this disease were reported during the year, against 8 in the previous year and 44 in the year 1908.

These cases occurred as follows :—

	Died.	Destroyed.	Recovered.	Total.
Cairo ...	...	8	...	8
Port Said ...	...	2	5	7
Daqahlia ...	...	2	1	3
Gharbia ...	...	2	...	2
Sharqia ...	1	...	...	1
TOTAL ...	1	14	6	21

#### *Anthrax.*

During the year 293 cases were reported : 217 in the Quarantine Pens, 48 in Alexandria Abattoir (amongst sheep), 24 in Cairo Abattoir (in sheep), 1 in a horse in Cairo City, 2 sheep in Alexandria Town and 1 sheep in Tanta Town.

The cases detected in the Quarantine Pens are distributed as follows :—

	Sheep.	Cattle.	Total.
Alexandria ... ... ... ... ...	201	8	209
Port Said ... ... ... ... ...	8	...	8
TOTAL... ... ...	209	8	217

During the year 1909, 198 cases were reported : 159 in the Quarantine Pens, 14 in Alexandria Abattoir, 22 in Cairo Abattoir, 1 in Qaliubia Province, 1 in Cairo City and another in Alexandria Town.

The following are the ports from which the cases reported in 1910 were imported :—

	Sheep.	Cattle.
Syrian ports ... ... ... ... ...	278	8
Salonica ... ... ... ... ...	2	...
Mersina ... ... ... ... ...	3	...
Benghazi ... ... ... ... ...	1	...
TOTAL... ... ...	284	8

One case occurred in a horse at Abbassia.

#### *Black Quarter (charbon symptomatique).*

2 cases in cattle were detected during the year in Alexandria Quarantine Pens imported from Alexandretta, against 20 cases in the previous year.

#### *Sheep-pox.*

83 cases were reported during the year, distributed as follows :—

Alexandria Quarantine Pens ...	...	...	...	...	...	...	...	14
Port Said Quarantine Pens ...	...	...	...	...	...	...	...	29
Minia Mudiria... ... ... ...	...	...	...	...	...	...	...	40
Total... ...								83

#### *Foot-and-Mouth Disease.*

22 cases were detected in Alexandria Quarantine Pens. No cases were reported in the previous year, against 4 cases in the year 1908 in Alexandria Quarantine Pens.

#### *Septicæmia Hæmorrhagica.*

No cases were reported during the year 1910.

In 1910, 18 cases were reported in the country, against 70 cases in the year 1908 : 24 from the Quarantine Pens of Alexandria and Port Said, and 46 reported in the country.

#### *Swine-fever.*

1 case was reported in Cairo Abattoir during the year.

In 1909, 340 cases were reported in Cairo City including 89 in Cairo Abattoir.

*Mange.*

35 cases were reported (34 in Cairo and 1 from Giza) during the year, which have been treated in the Animals' Isolation Hospital at Abbassia.

In the year 1909, 6 cases were reported in Cairo, and in 1908, 16 cases on camels were reported in Qantara Quarantine Pens.

*Strangles.*

During the year 16 cases were reported, distributed as follows:—

Cairo City...	...	...	...	...	...	...	...	...	...	...	...	...	4
Qantara Town...	...	...	...	...	...	...	...	...	...	...	...	...	4
Port Said Town	...	...	...	...	...	...	...	...	...	...	...	...	1
Gharbia	...	...	...	...	...	...	...	...	...	...	...	...	2
Menufia	...	...	...	...	...	...	...	...	...	...	...	...	3
Minia...	...	...	...	...	...	...	...	...	...	...	...	...	2
												Total...	16

In 1909, 1 case was reported from Alexandria Quarantine Pens.

*Cow-pox.*

One case was reported in Behera Province during the year.

*Stiff Sickness.*

This disease is well known in Egypt, and in its early stages is frequently confounded with foot-and-mouth disease; the fellahs give it the same name, *viz.*, Abo Rokab.

During the past 15 years a few outbreaks have occurred, but as the disease apparently does little or no harm beyond causing a few days' sickness, and deaths from it are extremely rare, the enforcing of any restrictive measures has not been considered necessary.

In the year 1909, 389 cases were reported, but a much larger number occurred. One case only was noticed during the present year (1910).

*Malta Fever.*

During the year 86 cases (in goats) were reported: 24 in Port Said Quarantine Pens, and 62 in Port Said Town.

The 62 goats in Port Said Town were destroyed and the sum of L.E. 112 was paid to their owners as compensation.

(ii) CATTLE PLAGUE.

*Cattle Plague in Egypt.*

During the year 2,500 deaths from cattle plague were reported in the following Mudirias and Governorates:—

Aswan	...	...	...	...	...	...	83		Brought forward...	2,039
Qena	...	...	...	...	...	...	220	Sharqia	...	73
Girga	...	...	...	...	...	...	238	Gharbia	...	96
Assiut	...	...	...	...	...	...	344	Menufia	...	9
Minia	...	...	...	...	...	...	499	Behera	...	207
Beni Suef	...	...	...	...	...	...	202	Daqahlia	...	57
Fayum	...	...	...	...	...	...	350	Cairo	...	11
Giza	...	...	...	...	...	...	87	Port Said	...	1
Qaliubia	...	...	...	...	...	...	16	Alexandria	...	7
								Total...	...	2,500
								Carried forward...	2,039	

This brings the total number of deaths reported in Egypt since the appearance of the disease (in June 1903) to 165,634.

57,426 animals were serumized in the infected districts during the year 1910.

Besides the cases that occurred in the interior of the country, 18 cases were reported in Alexandria Quarantine Pens, 11 in Port Said Quarantine Pens, and 23 in Alexandria Abattoir.

#### *Cattle Plague in the Sudan.*

Cattle plague was reported from the following districts in the Sudan during the year :—

- Blue Nile Province.
- White Nile Province.
- Bahr El Ghazal Province.
- Sennar Province.

#### *Foot-and-Mouth Disease in the Sudan.*

Foot-and-mouth disease was reported in the Blue and Upper Nile Provinces during the year.

#### *Isolation Hospital for Contagious Diseases of Animals.*

An Isolation Hospital for infectious and contagious diseases, principally for solipeds, has existed for several years in Alexandria, and one was opened last year (1909) in Cairo, Abbassia, and has proved of the greatest use, as the following figures will indicate :—

##### Admitted in 1910 :—

Horses	...	...	...	...	...	...	...	...	...	...	106
Mules	...	...	...	...	...	...	...	...	...	...	9
Donkeys	...	...	...	...	...	...	...	...	...	...	10
Camels	...	...	...	...	...	...	...	...	...	...	2
Sheep	...	...	...	...	...	...	...	...	...	...	3
											TOTAL... ... ...
											130

TABLE XXXVII.

DISEASE.	Horses.	Mules.	Donkeys.	Camels.	Sheep.
Glanders	28	1	1	...	...
Suspected glanders	41	4	3	...	...
Mange and other skin diseases	31	3	4	...	...
Bursattee	...	...	1	...	...
Strangles	1	...	1	...	...
Suspected rabies	...	...	...	2	...
Suspected fever	...	...	...	...	3
Epizootic lymphangitis	3	1	...	...	...
Suspected epizootic lymphangitis	1	...	...	...	...
Malignant tumours	1	...	...	...	...
	TOTAL... ... ...	106	9	10	2
					3
Destroyed	35	2	2	...	...
Discharged cured	63	5	7	2	3
Died	5	1	1	...	...
Remaining in Hospital	3	1	...	...	...
	TOTAL... ... ...	106	9	10	2
					3

##### Remaining in Hospital :—

- 2 horses with mange.
- 1 mule suspected with glanders.
- 1 horse suspected with epizootic lymphangitis.

All solipeds before being admitted to the Society for the Prevention of Cruelty to Animals in Cairo and Alexandria are tested with mallein.

During the year 1910 :—

1,570 horses	}	were tested in Cairo.	1,751 horses	}	were tested in Alexandria.
1,315 mules		150 mules			
1,433 donkeys		2 donkeys			

In some of the larger Mudiria towns an Isolation Hospital for animals, and particularly solipeds and dogs, is becoming a necessity.

#### *Camel Diseases.*

Until quite recently this Service has had very little time at its disposal for studying the diseases of camels in Egypt. During the last four years I have detailed Mr. F. E. Mason for this special work, pointing out certain diseases which I considered required further investigation. In the course of the enquiries other diseases also came under his notice and have received his attention.

The danger zones of the trypanosomiasis in Egypt have been mapped out. The disease exists largely in Eastern Sudan ; the northern part of this district supplies a certain number of camels yearly to Egypt and, consequently, a certain amount of disease.

#### (iii) ABATTOIRS.

No new abattoirs were opened during the year.

Up to the end of 1910, there are 104 towns (including Alexandria) provided with public abattoirs, distributed as follows :—

Worked by Government...	... ... ... ... ...	16
Worked by Municipalities and Local Commissions	... ...	38
Worked by Markets Company	... .. ... ... ...	50
Total towns, shown on attached list...	...	<u>104</u>

Another abattoir is in the course of construction by the Department at Qus.

The total revenue of the Government Abattoirs (besides Cairo) during the year 1910, amounted to L.E. 4,693 and 770 milliemes (including Port Said L.E. 1,445 and 360 milliemes).

#### *List of Abattoirs Worked by the Department of Public Health.*

Cairo.	Samallut.	*Port Said.	Tema.
Ismailia.	Nag Hamadi.	Helwan.	Foa.
Qaliub.	Quesna.	Abu Kerkas.	Kafr El Sheikh.
Maghagha.	Tura.	Zeitun.	Beni Mazar.

Qus Abattoir is under construction.

#### *List of Abattoirs Worked by the Municipalities and Local Commissions.*

Alexandria.	Kafr El Zayat.	Damanhur.	Giza.
Tanta.	Akhmim.	Beni Suef.	Tahta.
Zagazig.	Luxor.	Assiut.	Aswan.
Fayum.	Manfalut.	Damietta.	Abu Tig.
Minia.	Sennures.	Mehalla El Kobra.	†Samannud.
Suez.	Rosetta.	Girga.	†Tala.
Qena.	†Simbellawein.	Benha.	Beba.
Sohag.	†Dessuk.	Zifta.	Belbeis.
Shebin El Kom.	†Esna.	Menuf.	
Mit Ghamr.	Mansura.	Mellawi.	

\* Transferred to Port Said Municipality from January 1st, 1911.

† These abattoirs were built by the Government, worked by the Markets Company, and then transferred to Local Commissions.

*List of Abattoirs Worked by the Markets Company.*

Tukh.	Mit Yaish.	Ashmun.	Ibrahimia.
El Fashn.	Azizia.	Delengat.	Abu Hommos.
Kafr El Bagur.	Shalshalamun.	Bush.	Zerbi.
Bassiuun.	Ibshawai.	Faccus.	Mashtul.
Dekernes.	Agamayin.	Belifia.	Matai.
Ibiar.	Shebin El Kanater.	El Shin.	Sanhur.
Mehallet Menuf.	Sobk.	Mehallet Abu Ali.	Maragha.
Missir.	Abnub.	Abu Kebir.	Kift.
Ganzur.	Armant.	Batanun.	Bahgura.
Abul Shekuk.	Farshut.	Gezai.	Minshah.
Sersena.	Bardis.	Beban.	Mit El Amel.
Saft El Meluk.	Giziret Shandawil.	El Kanayat.	
Sombat.	Gaafaria.	Kotama El Ghaba.	

*Animals Slaughtered.*

During the year, 771,477 animals were slaughtered in the twenty principal abattoirs, against 761,038 in 1909 and 724,082 in 1908.

The following is a comparative statement of the different species of animals :—

	1910.	1909.	Difference.
Cattle ... ... ... ... ...	170,409	173,135	— 2,726
Sheep and goats ... ... ...	588,537	576,297	+12,240
Pigs ... ... ... ... ...	8,187	7,699	+ 488
Camels ... ... ... ... ...	4,344	3,907	+ 437
	771,477	761,038	+13,165 — 2,726
Net Difference, increase...			10,439

TABLE XXXVIII.

RETURN OF ANIMALS SLAUGHTERED IN THE FOLLOWING TWENTY PRINCIPAL ABATTOIRS  
DURING THE YEAR 1910.

Abattoirs.	Bulls.	Cows.	Buffaloes.	Calves.	Sheep.	Goats.	Pigs.	Camels.	Total.
Cairo ... ...	5,763	4,890	8,592	44,097	286,119	751	2,223	1,786	354,221
Alexandria ..	21,915	8,760	2,113	9,347	148,719	8,610	3,454	62	202,980
Port Said ...	488	396	336	7,030	7,732	1,002	952	31	17,967
Ismailia ...	17	3	3	666	859	142	37	15	1,742
Suez ...	569	140	24	932	8,045	29	18	18	9,775
Damietta ...	25	52	141	1,324	3,282	86	...	...	4,910
Rosetta ...	23	13	160	634	1,826	170	...	10	2,836
Benha ..	40	70	342	2,675	3,338	91	...	230	6,786
Shebin El Kom..	114	34	797	1,691	2,151	26	...	155	4,968
Tanta ... ...	18	499	842	4,912	21,858	1,284	25	309	29,747
Damanhur ...	64	187	297	3,816	11,878	691	...	661	17,594
Zagazig ...	133	211	203	4,288	11,011	527	38	529	16,940
Mansura ...	97	108	333	5,112	14,016	290	28	31	20,015
Giza ...	90	98	1,201	2,910	5,353	14	1,367	148	11,181
Beni Suef ...	13	58	168	4,111	9,681	527	11	62	14,631
Fayum . ...	26	8	147	3,851	7,735	3	...	91	11,861
Minia ...	30	76	250	4,123	9,476	148	7	47	14,157
Assiut ..	104	271	458	3,916	9,922	71	27	42	14,811
Sohag...	6	3	50	1,803	5,052	322	...	32	7,268
Qena ...	3	4	67	1,228	5,641	59	...	85	7,087
Total...	29,538	15,881	16,524	104,466	573,694	14,843	8,187	4,344	771,477

*Cairo Abattoir.*

The revenue of Cairo Abattoir during the year 1910 amounted to L.E. 30,692 and 23 milliemes, distributed as follows :—

	L.E.	Mills.
Slaughtering dues ... ... ... ... ... ...	28,001	725
Stabling dues ... ... ... ... ... ...	1,253	038
Sheep market dues ... ... ... ... ... ...	1,221	260
Tripe shops rent... ... ... ... ... ...	216	000
Total... ...	<u>30,692</u>	<u>023</u>

In 1909 the revenues of the Abattoir amounted to L.E. 29,884 and 503 milliemes, thus showing an increase of L.E. 806 and 520 milliemes, in the income of 1910 over that of 1909.

A still larger revenue from the Cairo Abattoir would, I believe, be realised if contraband slaughtering of the smaller animals could be stopped.

The following interesting report on the work of the Cairo Abattoir during last year has been prepared by Mohamed Effendi Askar, Veterinary Officer to the Abattoir :—

*Animals Slaughtered.*

The total number of animals slaughtered during the year was 359,375, including 5,154 for the Army of Occupation. The following comparative table, with that of last year, shows the number of animals killed and their various classes :—

TABLE XXXIX.

Months.	Bulls.	Cows.	Gamoos.	Camels.	Calves.	Sheep.	Goats.	Pigs.	Total.
January ...	267	430	553	74	5,239	21,032	49	352	27,996
February	380	362	482	79	4,685	21,994	42	250	28,274
March ...	431	252	546	77	4,422	25,228	69	163	31,188
April ...	362	323	800	83	3,883	26,736	59	76	32,322
May ...	384	439	770	93	3,863	27,417	65	76	33,107
June ...	380	508	647	215	2,976	25,087	52	64	29,929
July ...	569	497	663	250	2,277	23,432	42	52	27,892
August ...	547	387	620	256	2,126	22,322	59	69	26,386
September	452	474	878	257	2,836	23,059	188	120	28,300
October ...	685	488	816	170	3,299	24,212	81	234	29,985
November	578	430	787	106	4,233	22,879	17	338	29,368
December	728	300	1,030	126	4,258	22,685	28	429	29,584
1910 ...	5,763	4,890	8,592	1,786	44,097	286,119	751	2,223	354,221
1909 ..	3,089	3,798	8,281	1,882	49,538	276,004	2,367	3,396	348,355
Increase ...	2,674	1,092	311	...	...	10,115	...	...	14,192
Decrease...	...	...	...	96	5,441	...	1,616	1,173	8,326

It will be observed that the month of May represents the highest monthly number of animals killed, whilst August was the lowest. December 10th, being the eve of Bairam, was a record : 27 bulls, 14 cows, 314 gamoos, 19 camels, 458 calves, 2,301 sheep and 22 pigs were killed. The average number of animals killed daily arrived at 18 bulls, 13 cows, 23 gamoos, 4 camels, 120 calves, 792 sheep, 2 goats and 6 pigs.

The dead-weight of the animals killed during the year may be roughly estimated at 14,288,335·280 kilos. which works out at 21·381 kilos. per head of the population of Cairo.

Compared with those of last year, the figures of 1910 show an increase in the number of bulls and sheep, probably due to the Sudan trade ; against a decrease in the number of pigs which may be ascribed to contraband killing outside the abattoir and also due to a big dealer now killing his animals at Giza instead of at Cairo.

*Sources from which Animals Come to the Abattoir.*

*Cattle.*— Egyptian bred animals are brought to the abattoir from all the markets of Egypt, particularly from Assiut, which supplies the abattoir with the best fat animals; these I am given to understand are fattened in that locality especially for the abattoir. In addition to Assiut, the abattoir is mainly fed by the Embaba and Giza markets, which constantly receive large numbers of beef-producing cattle from Sohag, Minia, Beni Suef and Fayum. Saturday being the Embaba market-day, and Tuesday the market at Giza, large numbers of animals are admitted into the abattoir, and the income on those days is augmented considerably.

The markets of Lower Egypt, especially Damanhur, Mansura, Tanta and Quesna, provide also the abattoir to a certain extent with cattle, some of which are either old or affected with some defect, rendering the animal useless for work. But not many of these animals have been purchased for the abattoir this year, owing to the Sudanese cattle having replaced them, being cheaper in price.

*Sudan Cattle.*—This practically being a new source of supply, provided Cairo Abattoir this year with 4,026 animals, which is nearly 12% of all cattle killed. The best Sudan cattle are the Daowl bulls, which I have been told are brought from the localities of Khartoum, Berber, Shendy, Wad Medani and Damer. They are generally short-horned, tame, quiet beasts. When killed and dressed, the carcases show a great amount of fat on the back and around the kidneys, conditions which make them marketable. Their meat sometimes competes with first class beef. Another breed, the Gabali, is composed mostly of long-horned, semi-wild beasts, brought from the desert and mountainous regions, where they are born and bred. They sometimes ‘horn’ one another in the trucks, on their way down to Cairo, and, consequently, their meat is found badly bruised on their arrival. It is also darker in colour than the Belady meat and bears little or no fat on the back and around the kidneys, conditions which often make them unmarketable.

*Cyprus Cattle.*—From time to time a few Cyprus animals are brought into the abattoir. They are not fat, but their meat bears resemblance to that of the Belady and ranks with third class beef.

*Darnawy Cattle.*—Some animals from that locality (Tripoli) were brought in April and May to the abattoir, but the dealers found no market for them, as their meat is generally measled, and no more than one hundred animals were killed during the year. The Sudanese cattle have replaced them altogether.

*Gamoos.*—All buffaloes that come into the abattoir are Egyptian. No foreign buffaloes were killed. They come from all the markets of Egypt, particularly from Sohag, Fayum and Beni Suef, in Upper Egypt, and from Damanhur, Mansura, Tanta and Quesna, in Lower Egypt. Some dry milch gamoos come from Cairo also.

*Sheep—Belady Sheep.*—Five different breeds of Belady sheep are distinguishable in the abattoir.

(1) *The Sanabawy Breed* which comes from Sanabo and the regions neighbouring it in Assiut Province. These are black, long-tailed, hornless animals. The young lambs appear in the market about the end of January, and great numbers of them are admitted to the abattoir. Their number goes on increasing during the months of February, March, April and May, then the lambs are replaced by adult sheep of this breed.

(2) *The Ebaidy Sheep* come from Beni Ebaid, Minia Province. These are white, long-horned animals with a tapering tail. Their lambs are brought down about the same time as the Sanabawy and the bigger sheep are slaughtered all the year round.

(3) *The Oseemy or Merais Breed*, the best of all, come from Oseem, Embaba Markaz, where the inhabitants take great pride in raising this breed. They also come from Menufia, Qaliubia and Beni Suef. They have white bodies and red necks and heads. The first lambs appear about the end of December and continue till the end of May. There are not many of them, and, consequently, they always find a ready sale in the market. Merais sheep are found in small numbers all the year round.

(4) *Rahmany Breed*. — These come from Rahmania and its neighbourhood in Behera and Gharbia. It is also a very good breed. They are red-coloured sheep and have an oval-shaped tail which twists and then becomes straight and fine at the end.

(5) From Behera, especially from the Districts of Damanhur, Abu Hommos and Kafr el Dauwar, come the breed of sheep known as *Medaiyar*. This means either a Darnawy animal (from Darna, in Tripoli) that has been in Behera for sometime, or animals bred from Beladi and Darnawy sheep. This breed is always found in the abattoir. The meat is not very good, but the small size of the animals makes them marketable, as they are passed off into the market as Belady lambs.

Besides these breeds other sheep come to the abattoir from all parts of the country, especially during, and for sometime after, the berseem season.

*Sudan Sheep*. — These are large animals without horns and with long thin tails, but have no wool. They come to the abattoir all the year round, but more particularly in the winter, when they have been grazed on the pastures after the rainy season in the summer. They are generally replacing Syrian sheep. Their meat is not so well covered with fat as the Belady, but in well-fed animals the fat is deposited for the most part around the omentum and mesenteries as well as in the region of the kidneys. The meat of emaciated Sudan sheep darkens quickly, so that its colour after a short time appears to be almost black. There are four breeds of Sudanese sheep :—

- (1) Butana sheep,
- (2) Kababeesh animals,
- (3) Taballul breed, and
- (4) Sulaima sheep.

The Butana and Kababeesh are leggy animals which come from Damer and Shendy markets. The Taballul and Sulaima cross are short-legged sheep which come from Damer and Douem.

*Darnawy Sheep*. — These come from the regions around Darna and Benghazi (Tripoli). They are shipped to Alexandria and thence sent to Cairo. In April and May a very fine breed of sheep resembling in appearance the Oseemy lambs were brought to the abattoir. They were known as Tripoli lambs. But after those months they ceased to come, while the Darnawy breed is always present.

*Syrian Sheep*. — There are four breeds of Syrian sheep :—

- (1) Big, long-horned, round-tailed, brown-coloured animals.
- (2) A big, long-horned, round-tailed, white breed, better than the former.
- (3) The Asmyrly breed, coming from Smyrna and the surrounding districts, which are the best of all the Syrian sheep.
- (4) Mersina sheep coming from Mersina. These are preferred for their small size.

*Servian Sheep.*—Very few of these were brought.

*Cyprus Sheep.*—These are good-looking big animals with a peculiar tail, flat and oblong at its commencement and narrow and round at the end. Very few of these come into the abattoir.

*Camels.*—Old worn-out camels are brought to the abattoir from all parts of the country through Giza and Embaba markets. During spring and summer, fat, good, female camels are brought from Arabia and Syria to Belbeis and Khanka markets, from which places some are purchased for the Cairo Abattoir. Usually some very good animals also come from Tripoli, but none were brought this year.

*Pigs.*—The main source of pigs is Upper Egypt, particularly Minia and Assiut Provinces. The chief locality in Minia is Abu Kurkas and Ezzia in Assiut. Some pigs are reared in Cairo and its suburbs and a few come from Lower Egypt.

#### THE JEWISH METHOD OF SLAUGHTERING AND HOW THEIR MEAT IS INSPECTED.

There are three races of Jews that kill at the abattoir. They are the Karayeen, the Ashkenas and the Rabbanyeen. They all kill their animals in the same way, similar to the Mohammedans, *viz.*, by cutting the animal's throat. They always inspect their animals before slaughter and if, from weakness or other cause, an animal is unable to rise and stand upon his legs and walk, they refuse to kill him.

The method of cervical bleeding (Jewish method) is that the animal must be secured and thrown down, and the head is placed so that it lies upon the horns and nose. The neck is cut by three rapidly executed strokes with a long exceedingly sharp knife, which must be free from any flaws in it and to note this the Khakham tests it with his finger before use and murmurs : “Let it be blest through me, O God, King of the world, Who strengtheneth us in holiness by Thy command, and Who hast made killing a duty.” The animal should, after his throat is cut, move his legs, otherwise its meat is not to be eaten.

The Karayeen do no inspection in the abattoir. Their qualified butcher only cuts the animal's throat and examines the uterus. If he finds a foetus of any age in it, the animal is Terepha, that is, unfit for Jewish consumption, and the dealer sells it to the Mohammedan butchers at any price. If the uterus is free, the animal is Koscher, that is, fit for Jewish consumption, and is passed without having to be labelled or stamped. They eat male and female young gamoos chiefly, and kill about two animals daily. The whole carcase is fit for their consumption.

The Ashkenas inspect the lungs for attachments to the chest wall, as well as for perforations. If the meat is passed, the Khakham writes on the ribs and over the sternum the word “Koscher” in old Israelite letters. They eat the foreparts of cattle and gamoos up to the last rib but one. They kill about three or four animals daily except on Saturdays.

The Rabbanyeen, who do most of the Jewish killing, inspect meat in the abattoir as follows :—

When the abdomen is skinned, the animals are laid on their back and the belly is opened in the Khakham's presence. Then he takes the knife and incises the diaphragm in two places, making two holes, one to admit his hand for examining the right lung and the other for the left. Then he puts his hand into each side of the thoracic cavity, and feels along the chest wall and the lung surfaces. Any attachment of the lung

to the pleura renders the carcase Terepha. If the lungs are free in the chest, as they should naturally be, and the lung consistency is normal, the carcase is announced as Koscher. When the animal is dressed and hung up, the Khakham re-inspects the lungs and the kidneys. If the kidneys are cystic, the carcase is Terepha. The lungs are then blown up and should be air-proof, otherwise, the meat is unfit. If cysts are found in the lungs, which are filled with air or pure water, or with a dry or even hard material, provided that the hard material is not black in colour, and that the taste of the water is sweet and not sour, and that it does not smell, the meat is Koscher. It is then stamped over the breast and on the forearms. The stamp bears, in Israelite language, that "the meat is fit for the Jews." Also the hearts, lungs and livers are marked and the forearms are labelled with pieces of paper in which the inscriptions "10, טבת II VI", that is, the day, date and year, according to the Jewish calendar. The Rabbanyeen pass about 40 carcases daily, except on Saturdays. They kill only cattle and rarely kill gamoos and sheep. They never eat the meat of the Ashkenas or that of the Karrayeen. The Ashkenas allow the meat of the Rabbanyeen to be eaten. The Rabbanyeen are allowed only to eat the fore-quarters of an animal up to the fourth rib.

#### HOW THE RABBANYEEN INSPECT THEIR MEAT OUTSIDE THE ABATTOIR.

There are about thirty shops engaged in trading in Koscher meat only. All Koscher meat is taken every afternoon from the abattoir to the New Bazaar of Cairo. There is a delegate appointed by the Jewish authority to receive it and he counts the carcases with the Jewish stamp on. The Jewish butchers purchase the "shoulders" they want, in his presence. He notes in his book the number of parts that each man has bought and, at the same time, collects the Jewish fees which are P.T. 4 for each small "shoulder" and P.T. 5 for big ones. If all Koscher meat is not sold, the number of the remaining shoulders are noted, and on the next morning the delegate in question makes another tour of inspection to collect the rest of the fees from the butchers that have bought those remaining. If he does not find the number he noted as unsold the day before, either taken by Jewish butchers or still remaining in the dealer's place, he makes enquiries and gets to know where they have gone. The dealer who sells his Koscher shoulders to butchers who do not trade in Koscher meat must either pay the fees himself or produce the label with which the part in question was sealed, and which should show the day and date on it written by the Khakham of the abattoir. Having done that, his duty is to go round the shops and inspect all the meat therein. Directly he finds any irregularities or attempts at defrauding, the Chief Rabbi is informed, who enquires into the matter and if the butcher is found guilty, orders are given to the inspector not to allow the butcher to buy Koscher meat from the Bazaar. If the wholesale dealer sells Koscher meat to the guilty Jewish butcher, orders are given to the Rabbi at the abattoir not to kill the animals of that dealer. From all these precautions each individual Jew is quite sure that when he buys Koscher meat, he is protected against the likelihood of paying money for unlawful food. In reality, no food material lends itself to fraudulent treatment so much as meat.

#### THE INCOME OF THE ABATTOIR.

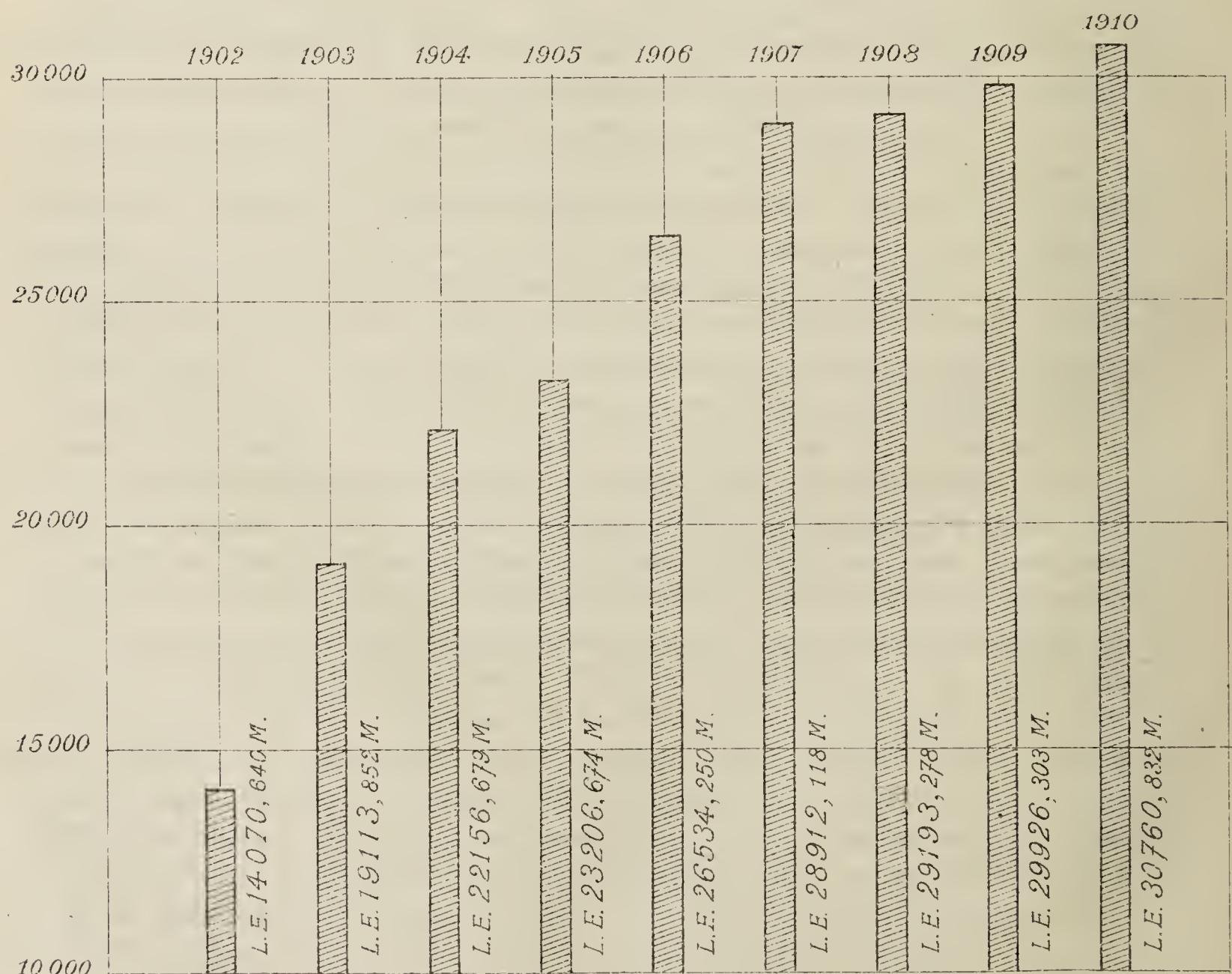
This consists of dues collected for slaughtering, dues from the quarantine parks, and also from the sheep and tripe markets and from the rent of the two weighing kiosks.

The details of the returns compared with those of last year may be tabulated as follows :—

TABLE XL,

	1910.		1909.		Increase.	
	L.E.	Mills.	L.E.	Mills.	L.E.	Mills.
Killing fees ... ... ... ... ...	28,001	725	27,435	650	566	75
Quarantine ... ... ... ... ...	1,253	38	1,197	235	55	803
Sheep Market ... ... ... ... ...	1,221	260	1,036	618	184	642
Tripe Market ... ... ... ... ...	216	...	216	...	...	...
Kiosks ... ... ... ... ...	28	...	...	...	28	...
<b>TOTAL...</b> ... ...	<b>30,760</b>	<b>823</b>	<b>29,926</b>	<b>303</b>	<b>834</b>	<b>520</b>

DIAGRAM SHOWING THE INCOME OF ABATTOIR FROM 1902 TO 1910

*Meat Condemned as unfit for Food.*

The number of whole, half, and quarters of carcases seized as being unfit for food are tabulated on the opposite page.

TABLE XLI.

	Cattle.			Buffaloes.			Camels.			Pigs.			Sheep.		Total.		
	W.	H.	Q.	W.	H.	Q.	W.	H.	Q.	W.	H.	Q.	W.	Q.	W.	H.	Q.
Tuberculosis ...	30	44	14	7	9	3	4	12	...	13	14	4	...	...	54	79	21
C. bovis ... ...	178	52	5	2	...	...	...	...	...	...	...	...	...	...	180	52	5
C. cellulosæ ...	...	...	...	...	...	...	...	...	...	48	...	...	...	...	48	...	...
Emaciation ...	3	...	...	...	...	...	3	...	...	...	...	...	3	...	9	...	...
Bruised meat ...	...	...	4	1	...	...	2	...	2	1	1	...	7	5	11	1	11
Jaundiced flesh	...	...	...	...	...	...	...	...	...	...	...	...	41	...	41	...	...
Cattle plague ...	3	...	...	2	...	...	...	...	...	...	...	...	...	...	5	...	...
Anthrax ... ...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	...	...
Swine fever ...	...	...	...	...	...	...	...	...	...	1	...	...	...	...	1	...	...
Total ...	214	96	23	12	9	3	9	12	2	63	15	4	52	5	350	132	37

W. = Whole. H. = Half. Q. = Quarter.

The diseases for which the meat of most animals is condemned are :—

*Measles in cattle.*—The number of cattle found affected with *cysticercus bovis* amounted to 178 whole, 52 half and 5 quarters of carcasses. It is remarkable to note that more animals from Upper Egypt than those of Lower Egypt are found to be measled. This peculiar condition may be explained by the fact that the majority of Upper Egypt cattle are slaughtered at a younger age than those of Lower Egypt, while in Lower Egypt most of the villagers do not kill cattle unless they are old and useless for work or injured from some cause or other. *Cysticercus bovis* is seldom found in aged cows and bulls. It is very often seen infesting cattle under four years of age. Out of 4,026 Sudan cattle slaughtered two cases of this disease were detected. In the few Darnawi cattle that were brought to the abattoir this year 10 per cent. of them were noted to be measled.

*Cysticercus Bovis in Gamoos.*—In this class of animals *cysticercus bovis* is rare. Nevertheless buffaloes are susceptible and it was detected this year in two buffaloes.

*Measles in Pork.*—*Cysticercus cellulosæ* accounted for the condemnation of 48 animals.

*Tuberculosis.*—With the exception of sheep and goats, this disease has been met with in all species of animals at the abattoir this year.

*In Cattle.*—The frequency of the occurrence of tuberculosis in cows and bulls varies very much according to the locality from which the animal comes. Thus cattle brought from the Sudan are nearly free from tuberculosis, while old animals, of Lower Egypt, are to some extent affected, particularly those that come from low marshy districts. The percentage of tuberculosis among milch cows is high. Out of 1,250 milch cows killed 614 were found tubercular, i.e., 49·16 per cent. This may be accounted for by the fact that the older the cow, the more milk she gives ; thus, milch

cows found at the abattoir are nearly always old, being only killed when they are dry. Animals when affected with the disease in question become more or less useless for work and so they are sold for milking purposes.

*Tuberculosis in Gamoos.*—No cases were detected in young buffaloes under four years of age. Nearly all cases condemned were among old animals and milch gamoos. Out of 1,561 milch gamoos killed 153 were found tubercular, i.e., 9·8 per cent.

#### *Organs Confiscated.*

The number of the organs seized and the causes of destruction are shown in the following table:—

TABLE XLII.

	Tuberculosis.			Filariasis.	Distomatosis.	Echinococci.		Cirrhosis.	Inflammation.	P.M.	Discolour.	Cysticercus.	
	Hd.	Lg.	Lr.			Lung.	Liver.					Ht.	Hd.
Cattle ...	167	1,007	28	164	1,440	...	155	...	356	...	160	626	163
Gamoos	16	173	19	...	1,443	47	46	...	72	...	27	...	...
Sheep ...	...	...	...	17,306	19,348	...	7,390	...	...	...	1,034	...	...
Camels	...	34	6	...	13	474	62	...	...	...	84	...	...
Pigs ...	180	95	15	...	...	28	18	58	4	10	...	20	...
<b>TOTAL ...</b>	<b>363</b>	<b>1,309</b>	<b>68</b>	<b>17,470</b>	<b>22,244</b>	<b>549</b>	<b>7,671</b>	<b>58</b>	<b>432</b>	<b>10</b>	<b>1,305</b>	<b>646</b>	<b>163</b>

*Distomatosis in Cattle and Gamoos.*—The majority of buffaloes, especially adult animals, are affected with the liver fluke. There are more flukes in gamoos than in cattle. This is probably because the latter are fed mostly on waste land around marshy districts and also are often bathing in canals, where the ova of the parasite abounds.

*Distomatosis in Sheep.*—The number of livers condemned demonstrates the great frequency of distomatosis in these animals. Most of the livers seized were from the breed of sheep known as Medayar. These, as already stated, are animals that come from Darna and Mariout regions and remain for some time in Behera where they are grazed on marshy land.

## QUARANTINE DEATHS.

		Cattle.	Gamoos.	Camels.	Sheep.	Pigs.	Total.
Cattle plague ...	...	1	1	...	...	...	2
Anthrax ...	...	...	...	...	24	...	24
Sporadic diseases ...	...	1	2	2	49	1	55
<b>TOTAL...</b>	<b>...</b>	<b>2</b>	<b>3</b>	<b>2</b>	<b>73</b>	<b>1</b>	<b>81</b>

## PRICES OF MEAT IN THE NEW BAZAAR OF CAIRO AND EUROPEAN MARKETS.

## PRICES OF BEEF PER OKE. \*

	BALADI.			SUDAN.			MUTTON PER OKE.		
	1st. P.T.	2nd. P.T.	3rd. P.T.	1st. P.T.	2nd. P.T.	3rd. P.T.	Baladi. P.T.	Syrian. P.T.	Sudan. P.T.
January ...	7·5	6	4·5	6	5	4·5	11	8	7
February ...	7·5	5·75	4·5	5·5	4·75	4	10·5	8	6
March ...	6·5	5	4·5	5	4·5	4	10	7·5	6·5
April ... ...	6	5·25	4	5	4·5	3·5	9·5	7	6
May ... ...	6·25	5·25	4·5	5	4·5	4	9	6·75	6
June ... ...	6·5	5·5	4	5	4·5	4	9	6·5	6
July ... ...	7	6	4·5	5·5	5	4	10	7·5	6
August ...	7·5	6·5	5	6	5·5	4·25	10·5	7	6·5
September	7·75	6·5	5·5	6·25	5·5	4·5	11	8	7
October ...	7·75	6·5	5·5	6·25	5·5	4·5	12	8	6
November...	7·5	7·25	5·25	6·5	6	4·5	12	9	6·5
December ...	7·5	6	5	6·25	5	4·5	12	9	6

## THE PRICES IN NATIVE MARKETS PER KANTAR. †

	GAMOOS.				MUTTON.			CAMELS.	
	1st. P.T.	2nd. P.T.	3rd. P.T.	4th. P.T.	Baladi. P.T.	Syrian. P.T.	Sudan. P.T.	1st. P.T.	2nd. P.T.
January ...	215	200	195	150	400	350	225	160	14
February ...	215	195	180	140	300	275	250	160	140
March ...	220	185	175	140	300	275	250	150	140
April ... ...	210	170	165	145	300	275	250	150	130
May ... ...	210	175	165	145	300	275	250	140	130
June ... ...	210	175	160	150	350	300	250	140	120
July ... ...	220	195	170	155	350	300	250	120	100
August ...	230	195	180	160	350	300	250	110	90
September	235	195	180	155	350	300	250	110	90
October ...	235	220	210	160	400	325	225	90	80
November...	235	215	200	150	400	325	225	90	80
December ...	225	215	200	145	400	325	225	80	75

Usually during the winter, meat is high in price, probably owing to the tourist season and also owing to there not being many Baladi animals procurable during that period. About the end of February the price of mutton commences to diminish and goes on till May, when it gets to its lowest point, as this period is the time when most of the lambs are put on the market.

\* Oke = 1·2 kilogrammes; 2·7 lbs.

† Kantar = 44·9 kilogrammes; 99 lbs.

## (iv) CENSUS OF CATTLE AND BUFFALOES IN EGYPT.

TABLE XLIII.

GOVERNORATE OR PROVINCE.	CATTLE.				BUFFALOES.			
	August-September 1909.	August-September 1910.	Increase.	Decrease.	August - September 1909.	August-September 1910.	Increase.	Decrease.
Cairo ... ... ...	2,024	2,403	379	...	1,984	3,093	1,109	
Alexandria ... ...	1,907	1,629	...	278	3,515	3,351	...	164
Canal ... ... ...	225	81	...	144	74	20	...	54
Suez ... ... ...	343	491	148	...	129	17	...	112
Damietta ... ... ...	...	3,367	...	...	...	2,476	...	...
Total, Governorates	4,499	7,971	527	422	5,702	8,957	1,109	330
Gharbia ... ... ...	91,387	87,858	...	3,529	129,303	110,185	...	19,118
Menufia ... ... ...	54,297	55,465	1,168	...	100,799	108,360	7,561	...
Daqahlia ... ... ...	65,586	55,131	...	*7,088	73,082	66,154	...	*4,452
Behera ... ... ...	57,012	47,604	...	9,408	69,863	63,373	...	6,490
Qaliubia ... ... ...	25,909	23,130	...	2,779	41,152	38,299	...	2,853
Sharqia ... ... ...	89,577	82,345	...	7,232	74,486	64,939	...	9,547
Total, Lower Egypt	383,768	351,533	1,168	30,036	488,685	451,310	7,561	42,460
Giza ... ... ...	26,140	25,058	...	1,082	23,434	23,044	...	390
Fayum ... ... ...	25,511	22,709	...	2,802	39,694	35,371	...	4,323
Beni Suef ... ... ...	26,620	26,205	...	415	22,418	24,434	2,016	...
Minia ... ... ...	53,396	47,106	...	6,290	50,180	44,130	...	6,050
Assiut ... ... ...	79,296	74,127	...	5,169	35,243	30,511	...	4,732
Girga ... ... ...	60,435	56,928	...	3,507	35,853	31,107	...	4,146
Qena ... ... ...	43,008	38,782	...	4,226	24,814	23,372	...	1,442
Aswan ... ... ...	22,443	21,672	...	771	2,261	2,556	295	...
Total, Upper Egypt	336,849	312,587	...	24,262	233,897	215,125	2,311	21,083
Grand Total, Net	725,116	672,091	...	53,025	728,284	675,392	...	52,892

\* The nominal decrease is 10,455 cattle and 6,928 buffaloes, of which 3,367 cattle and 2,476 buffaloes have respectively been deducted, being in Damietta, which is shown separately in this list while last year it was included in Daqahlia.

The following is a comparative table of the census of cattle and buffaloes obtained since 1903 :—

TABLE XLIV.

Years. Aug.-Sept.	Cattle.	Buffaloes.	Years. Aug.-Sept.	Cattle.	Buffaloes.
1903 ...	959,669	718,023	1907 ...	778,896	761,486
1904 ...	605,022	645,796	1908 ...	737,782	750,548
1905 ...	655,156	708,233	1909 ...	725,116	728,284
1906 ...	732,537	775,149	1910 ...	672,091	675,392

As will be seen by the above table the census of cattle and buffaloes returned during the autumn months shows again this year a further and still greater decrease than last year, *viz.*, 53,025 cattle and 52,892 buffaloes against 12,616 cattle and 22,264 buffaloes.

In explanation of the above statement it is to be noted that in the twenty principal abattoirs 170,409 cattle were slaughtered during the year, against 173,135 in 1909, of which number 108,466 were calves or very young cattle against 114,435 in 1909, and 85,791 calves in 1908. These figures I think indicate that the rearing and fattening of cattle is not a paying industry and that it is more profitable to dispose of the animals when they are very young than to incur the expense of bringing them up to a mature age. The extension of cotton cultivation naturally leaves less land for

producing forage, and this is felt particularly during the summer months. Egypt undoubtedly requires a cheap and healthy supply of cattle and sheep, and I hope that one has been found in the Sudan which, with time and care, will be able to supply a large number of cheap cattle and sheep for the Egyptian market. During the year over 5,000 cattle and 61,000 sheep have been imported through Shellal and no disease detected.

#### CENSUS OF SOLIPEDS.

During the year returns were made by the Mudiria authorities on solipeds in Egypt. These returns are not considered as exact, but give a good idea of the number of horses, mules and donkeys in the country.

TABLE XLV.

#### CENSUS OF HORSES, DONKEYS AND MULES IN 1910.

GOVERNORATE OR PROVINCE.	HORSES.			DONKEYS.			MULES.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Cairo ... ... ... ...	5,987	1,208	7,195	3,527	832	4,359	1,611	1,338	2,949
Alexandria ... ... ...	5,955	320	6,275	1,797	514	3,311	996	996	1,992
Canal ... ... ... ...	263	17	280	139	20	159	94	59	153
Suez ... ... ... ...	81	46	127	187	94	281	46	53	99
Damietta... ... ... ...	164	49	213	361	660	1,021	11	14	25
Total, Governorates ...	12,450	1,640	14,090	6,011	2,120	8,131	2,758	2,460	5,218
Gharbia ... ... ... ...	3,286	3,729	7,015	65,444	50,885	116,329	2,621	3,667	6,288
Menufia ... ... ... ...	890	1,692	2,582	38,547	44,804	83,351	585	1,040	1,625
Daqahlia... ... ... ...	1,533	2,357	3,890	34,070	29,911	63,981	1,148	1,621	2,769
Behera ... ... ... ...	1,987	2,714	4,701	24,758	31,981	56,739	1,636	1,993	3,629
Qalioubia ... ... ... ...	445	582	1,027	9,257	22,833	32,090	425	476	901
Sharqia ... ... ... ...	1,280	2,204	3,484	30,229	44,861	75,098	5,961	9,636	15,597
Total, Lower Egypt ...	9,421	13,278	22,699	202,305	225,275	427,580	12,376	18,433	30,809
Giza... ... ... ...	423	1,354	1,777	5,603	17,510	23,113	154	376	530
Fayum ... ... ... ...	897	930	1,827	18,525	20,843	39,368	438	230	668
Beni Suef ... ... ... ...	572	957	1,929	5,233	20,164	25,397	163	162	325
Minia ... ... ... ...	1,702	1,572	3,274	15,236	30,770	46,086	339	391	730
Assiut ... ... ... ...	888	2,213	3,101	14,660	30,775	45,435	150	164	314
Girga ... ... ... ...	777	1,428	2,205	6,613	22,618	29,231	34	45	79
Qena ... ... ... ...	641	825	1,462	13,218	22,652	35,870	84	107	191
Aswan ... ... ... ...	97	115	212	4,547	6,313	10,860	48	51	99
Total, Upper Egypt ...	5,997	9,394	15,391	83,635	171,645	255,280	1,410	1,526	2,936
Grand Total... ...	27,868	24,312	52,180	291,951	399,040	690,991	16,544	22,419	38,963

#### (v) IMPORTATION OF ANIMALS AND MEAT.

##### *Animals Imported.*

The following are the numbers of animals imported into Egypt during the year 1910, as compared with those of 1909 :—

TABLE XLVI.

	1910.	1909.	Difference. (increase).
Cattle ... ... ... ...	33,053	28,846	4,207
Horses, mules and donkeys ...	2,118	1,990	128
Sheep and goats... ... ...	432,572	273,604	158,968
Pigs, etc. ... ... ... ...	1,514	1,246	268
Camels ... ... ... ...	34,310	19,717	14,593
TOTAL... ... ...	503,567	325,403	178,164

Besides the above, 62,974 sheep and goats, 5,318 cattle and 7 camels have been imported from the Sudan during the year 1910, against 36,442 sheep and goats, 138 cattle and 1 camel in the year 1909.

*Frozen Meat.*

The frozen meat trade also shows an increase. During the year 1910, the following quantities of frozen meat have been imported into Egypt, as compared with the quantities imported in the previous year :—

NILE COLD STORAGE COMPANY.

	1910. lbs.	1909. lbs.	Difference (increase).
			lbs.
Beef ...	568,580	386,042	182,538
Mutton ...	204,354	140,490	63,864
Lamb ...	93,034	47,604	45,430
Veal ...	17,290	5,386	11,904
Pork ...	18,900	...	18,900

WILLS AND COMPANY.

	1910.	1909.	Difference (decrease).
Quarters beef ...	6,648	10,816	4,168
Sheep carcases ...	4,198	8,057	3,889
Lamb "	500	1,400	900
Veal "	184	193	9
Pork "	69	213	144
Sundries—Packages	335	443	108

All these figures point in one direction, that a very large proportion of cattle and sheep for the meat supply of Egypt will have to be imported in the future. If a cheap supply of cattle and sheep is not obtainable, one must expect to see a considerable rise in the price of meat, which will induce the fellahs (who are the breeders of cattle) to sell their cattle for meat, and thus a scarcity of working cattle will be caused. At present, working cattle can be purchased at from L.E. 17 to L.E. 22 per head.

*Skins from the Sudan.*

10,964 skins and hides were imported from the Sudan, via Halfa, and 405 bales, via Suez, for transhipment to foreign countries.

(vi) SCHOOL OF VETERINARY MEDICINE.

On the 1st of January, 1910, there were 37 students in the School. 16 students were admitted in October 1910 (including one cadet from the Military School).

At the professional examination held in December 1910, two students of the final year passed the examination and obtained their diplomas.

During the year, two students of the first year resigned, and two were discharged from the second year (including one cadet).

There are at present :—

4 students in the fourth year.

12      „      „      third    „  
12      „      „      second    „  
19      „      „      first    „

Out of the above the undermentioned are cadets from the Egyptian Army :—

- 1 in the fourth year.
- 3 „ third „
- 1 „ first „

The total number of veterinary surgeons qualified since the School was opened is 31 : 7 entered the Sudan Service, 2 in the Municipality of Alexandria, 2 in private practice in Cairo, 18 in the Department of Public Health, 1 in the School of Agriculture and 1, qualified as Doctor of Medicine in America, is at present practising in Cairo.

The conduct of the students during the past year (1910) has been satisfactory.

#### (vii) VETERINARY LEGAL CASES.

According to reports received, 336 examinations in Veterinary Legal cases have been made by the Veterinary Inspectors of this Department, of this number, 158 were cases of poisoning, 117 cases of wounds and 61 cases due to accidents and common diseases.

According to returns received from the Chemical Laboratory of the School of Medicine, 90 organs were analysed for poisoning, of which, 73 cases were found positive and 17 negative.

Mr. F. E. Mason reports the following observations :—

1. *Onchocerca Gibsoni in Camels*.—Worm nests found in sub-cutaneous positions were reported in May 1910, similar to those found by Cleland \* in camels in Western Australia. The female parasites found in the lesions were subsequently identified by him as *Onchocerca* or *Filaria Gibsoni* † ; the males remain undescribed.

The condition is an extremely common one in Egypt and the presence of the parasitic fibrous formations does not seem to produce any disturbance beyond the local one which is inconsiderable.

2. *Sarcocysts* have been reported in pigs, buffaloes, cattle, sheep and Sudanese sheep.

3. *Cysticercus bovis* has been found in a camel.

4. *Cysticercus tenuicollis* has been found in two monkeys which died from other causes in the Giza Zoological Gardens. In each case the parasitic cyst was closely related to the right kidney.

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\* BURTON CLELAND, "Journal of Tropical Veterinary Science," Vol. IV, 1909, page 321.

† "Journal of Comparative Pathology," Vol. XXIII, 1910, page 344.

## PART V.—ENGINEERING DEPARTMENT.

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Plans for new Infectious Pavilions at Abbassia and new storeys to the Hygienic and Public Health Department's Offices were prepared, but the work was postponed and will now be carried out by the Public Works Department, in accordance with the new arrangement arrived at between the two Departments.

*Lunatic Asylum, Abbassia.*—In continuation of the programme for the extension of the Abbassia Asylum a new pavilion for 60 patients has been completed and occupied during the past year.

Plans and particulars for further pavilions were put in hand, which will be submitted to the Projects Commission for approval during 1911.

General repairs where absolutely necessary for the maintenance of existing structures have been also undertaken.

*Alexandria Hospital.*—The residence for the Principal Medical Officer, including drainage and electric light, was completed and occupied during the year.

The contract for the construction of new kitchen and wash-house has been let. The foundations have been completed and the work on the superstructure is in progress and will be completed in the course of a few months.

*Ophthalmic Hospitals.*—The new Ophthalmic Hospital at Assiut has been completed and equipped during the year; the contract for the Mansura Ophthalmic Hospital has been let and is in course of construction.

*Central Administration.*—The shelving and equipment of the first portion of the new Stores, taken over last year, has been completed.

*Port Said Infectious Hospital.*—Eight huts have been constructed in the enclosure of the Infectious Hospital, Port Said, at a cost of L.E. 350, for observation of doubtful cases and to provide further accommodation in case of an epidemic of cholera.

*General Repairs.*—Important repairs have been carried out during the year to the following hospitals:—

Old Hospital and Infectious Huts, Suez,

Damanhur and Tanta Hospitals,

and minor repairs to Kasr El Aini, Alexandria and Port Said Hospitals, and other buildings belonging to the Department in Upper and Lower Egypt.

*Abattoirs.*—Modifications and repairs costing some L.E. 750 have been carried out in the abattoir and sheep markets at Old Cairo.

Plans were also prepared and the contract let for the erection of temporary shelters at Shellal for cattle and sheep arriving from the Sudan and the work has been commenced.

*Cemeteries.*—The boundaries of 106 cemeteries have been fixed during the year, the number of boundary posts used being 1,016 and the cost L.E. 639·694 milliemes.

*Sanitary Installations.*—Plans of sanitary installations to the following buildings were submitted to the Department of Public Health during the year, and after examination, and where necessary modification, approved :—

	Number.
State buildings ... ... ... ... ... ... ... ... ...	30
Mosques belonging to Wakfs Administration ... ... ...	21
Private mosques ... ... ... ... ... ... ... ...	17
Private houses ... ... ... ... ... ... ... ...	17
Baths ... ... ... ... ... ... ... ...	1

*Etablissements Insalubres.*—Sixty-six Etablissements Insalubres have been examined and approved, after modification, during the year.

## PART VI.—LEGISLATION.

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### (i) LUNACY LAW.

The draft law is still under consideration.

### (ii) INFECTIOUS DISEASES LAW.

A draft of a new law has been prepared and examined by the “Comité Consultatif de Législation” at the Ministry of Justice ; it will follow the regular course before being promulgated, and it is hoped that it will be passed with the least possible delay.

### (iii) UNHEALTHY ESTABLISHMENTS.

A Committee composed of delegates from the Ministry of Interior and the Department of Public Health has been appointed to examine the remodelling of the existing law. Sittings have taken place during 1910 and the matter is still under discussion.

### (iv) ASSISTANT PHARMACISTS LAW.

A law for assistant pharmacists has been elaborated and was passed by the Legislative Council.

### (v) PHARMACY LAW.

A draft of amendments to the existing law has been prepared and is still under consideration.

### (vi) CEMETERIES.

On the proposition of the Department of Public Health a Commission has been appointed to examine the question of Mohammadan cemeteries in Cairo, as was done at Alexandria. The Commission has drawn up a proposed regulation, which is still under consideration.

### (vii) DECREE REGULATING REGISTRATION OF BIRTHS AND DEATHS.

The new project is still under consideration. It has been approved by the “Comité Consultatif de Legislation” of the Ministry of Justice, and passed by the Legislative Council in December, 1910. It is now in the hands of the Ministry of Justice.

### (viii) REGULATION FOR THE “VIRANGE” OF FOSSES.

An important amendment was passed by the Mixed Court of Appeal and promulgated by Ministerial Arrêté of 10th January, 1910, empowering the Department to order the evacuation of a fosse within 24 hours in case of necessity and allowing the Public Health Authorities to proceed with the work at the expense of owners, these expenses to be recovered administratively according to the Decree of March, 1880.

(ix) DECREE REGULATING THE LATRINES OF MOSQUES.

The new decree regulating the latrines of mosques and all latrines accessible to the public was passed by the Legislative Council in December, 1910. It awaits promulgation.

(x) PLAGUE AND CHOLERA DECREE.

A new provision was submitted to empower the Public Health Authorities to order the closure of any public market in any locality which may be infected with plague or cholera. This project was passed by the Mixed Court of Appeal in November, 1910.

(xi) SANITATION OF MARKETS, ETC., IN CAIRO.

An important regulation was submitted by the Department in order to acquire power for its officials to carry out the necessary measures in the markets in Cairo.

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## CONCLUSION.

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In concluding this Report it should be added that the aims of the Department, as set forth in the conclusion of the previous year's report, remain the same. Progress is perhaps necessarily slow, but it is hoped that, though slow, it may not be any the less certain on the three lines previously laid out. Sound organization is, as ever, the fundamental necessity of an efficient department. In so far as the Department itself is concerned, every effort is made to develop along the lines which circumstances and experience have shown to be those most suitable to the conditions of this country.

A codified Public Health Law is still a desideratum which must be regarded as somewhat far off, but with such amendments of existing legislation as have taken place the lines of unification have been observed and should finally assist in making a sanitary code realizable.

In the field of research something continues to be done, and an extension of the laboratory building and, it is hoped, of the laboratory staff, will definitely enable the Department to pursue this object with greater power and in a wider field.

Finally, it must be regretted that the publication of this Report has been so long delayed, but the pressure of work and other complications have from time to time unavoidably postponed the work of its being brought together.

W. P. G. GRAHAM,

*Director-General.*



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I.N. 4547-1911-400 ex.

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